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Power and Wealth

Indicators & Trends in the Global Political Economy



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The Athens Centre for International Political Economy (ACIPE) was launched in 2010, and is part of the Institute of International Relations of Panteion University in Greece. The Centre focuses on the study of actors, structures, processes and dynamics that influence the transformation of the global political economy. The latter is understood and studied as an on-going negotiation process among states, regions, societies, markets, and international organizations.

The Research Network on Global Governance and the Emerging Global South (SouthGovNet) is a network of academics researching the emerging powers of the Global South, including the so-called 'BRICS' countries of Brazil, Russia, India, China and South Africa and other important developing countries such as South Africa, Mexico, Indonesia, and Korea. The network is funded by The Leverhulme Trust and includes academics from institutions in Europe, the US, and the emerging powers themselves. These include the Centre for Global Political Economy at the University of Sussex, the School of Geography, Politics and Sociology at the University of Newcastle, the Institute of International Studies at Fudan University, the Institute of Globalization and Social Movements in Moscow, the Department of Political Science at the University of Delhi, and the Centre for Research in International Relations at the University of São Paulo.

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Power and Wealth: Indicators & Trends in the Global Political Economy

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Introduction

Measuring economic strength and soundness is far from an easy task. There is no consensus amongst economists or political scientists of how to measure economic strength or soundness. The recent 'Commission on the Measurement of Economic Performance and Social Progress' that was created by the French President Nicholas Sarkozy and was led by Joseph Stiglitz (President of the Commission), Amartya Sen (Advisor) and Jean Paul Fitoussi (Coordinator) had exactly this aim: 'to identify the limits of GDP as an indicator of economic performance and social progress, including the problems with its measurement; to consider what additional information might be required for the production of more relevant indicators of social progress; to assess the feasibility of alternative measurement tools, and to discuss how to present the statistical information in an appropriate way'. The Report of the Commission is a must read for all scholars and students of economics and political economy, yet, it seems to be more telling about the problems involved in such a task rather than about the possible alternatives to the GDP!

The aim of this first 'Power & Wealth' Report is to kick off a new research project that aims to explore, in a historical perspective, trends in the distribution of wealth and economic power between states as well as between global regions. Along these lines, this first Report attempts to integrate an analysis of emerging trends both in terms of states and in terms of global regions. The second Report, currently in production, systematises further this 'dual perspective' (states/regions), and expands the focus of the project to include other actors (especially, Multinational Enterprises, Pension and Investment Funds and International Organisations) that for a number of methodological reasons we chose not to include in this first Report. Thus, rather than offering any conclusive findings, this first Report aims to set the parameters in which a long term research project will move.

A key aim of this project is to produce a new index to measure economic strength. Our purpose is to use this index as a device that will allow us to analyse the changing geometry of economic strength between states, global regions and other global economic actors. In this way, we aim to capture and assess the emerging trends in the changing global distribution of power and wealth. This new index and its rationale and methodology will be presented in the second issue of the 'Power & Wealth'.

One of the main difficulties encountered, and proposals made, by the 'Commission on the Measurement of Economic Performance and Social Progress' is that we need to distinguish 'between an assessment of current well-being and an assessment of sustainability, whether this can last over time. Current well-being has to do with both economic resources, such as income, and with non-economic aspects of peoples' life (what they do and what they can do, how they feel, and the natural environment they live in). Whether these levels of well-being can be sustained over time depends on whether stocks of capital that matter for our lives (natural, physical, human, social) are passed on to future generations'. The economic strength index and the rankings analysed in the Power & Wealth are able to capture aspects only of the current well-being and economic strength. Assessing the sustainability of this strength is equally, if not more, important, but remains beyond our purposes and means here. Yet, although we do not offer an analysis of future sustainability, we do offer a historical perspective of the current trends. In this way, we combine a synchronic with a diachronic view in the reading of power and wealth in the global political economy.

Finally, our analysis includes both ‘mainstream’ indicators of economic strength (e.g. GDP growth) and indicators that attract less attention but, to our opinion, will determine in the future the nature of the emerging distribution of wealth and power at a global level (e.g. R&D expenditures). We also decided to include and combine existing, established, composite indicators (e.g. Human Development Index, Global Competitiveness) of economic welfare, alongside with single, ‘primary’ indicators.

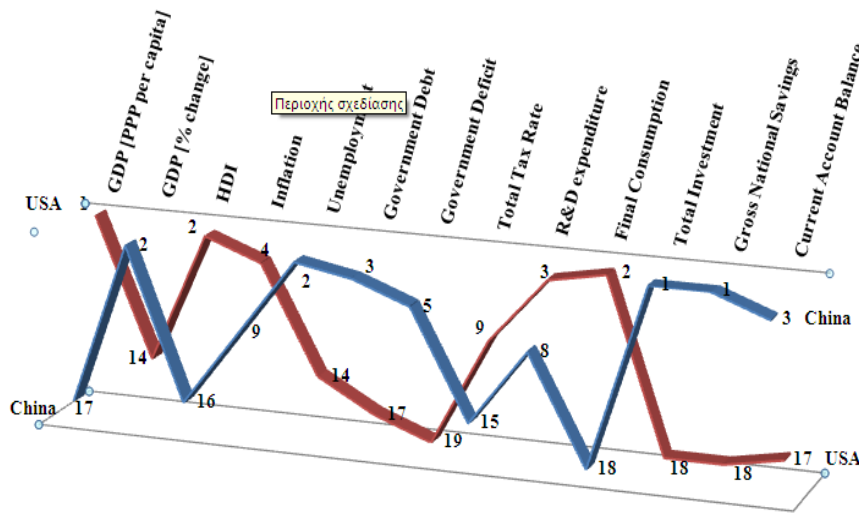
The Report that follows is not but just a first tentative step in what we hope it will be a long journey. We welcome both feedback and criticism, and look forward to present our index in the next issue!

Overview

Our first *Wealth & Power* report compares and contrasts states and global regions across 24 indicators, extending from the GDP to CO2 emissions. In this brief overview, rather than summarising the findings of this research, we would like to narrow down our analytical lens on the Group of 20 (G20). The G20 has emerged from the current global economic crisis as a key forum for negotiating the global economic governance. Table 2 (page 8) demonstrates how the G20 member-states are doing in a selected number of economic indicators. Based on these indicators we also attempt to draw a general ranking for the G20 states for 2010. In this ranking, China comes first, leaving the US in the second place. Furthermore, Korea comes third, leaving the largest European economy, Germany, to the fourth place. The fact that Australia and Saudi Arabia outperform the UK is also unexpected. Finally, it is interesting that Brazil is rather low in the ranking, despite its recent rebirth in the global stage, as a BRIC. Yet, this ranking should only be treated as a working hypothesis. The final ranking, along with the new Economic Strength Index, will be presented in the next *Wealth & Power* Report. In this regard, in Table 2, it is more useful to examine the ranking of each G20 state in each single indicator.

Interestingly, the two largest economies, the USA and China, exhibit opposing characteristics –and thus strengths and weaknesses– in most indicators. These opposing characteristics are demonstrated in Figure 1, which demonstrates the place that these two countries hold in

Figure 1: China vs. USA, 2010



the G20 ranking, across the various indicators of Table 2. Clearly China is on the Top and the US at the bottom of G20 Table in terms of Current Account surpluses, low government deficit, low national debt, high total investments, high saving rates, low unemployment, and high GDP annual percentage change.

The reverse is true for the GDP per capita, the Human Development Index, and final consumption, where the US is on the top and China at the bottom of the G20 Table. The distance between the two countries is smaller in the fields of R&D expenditures, taxation of corporate profits and inflation.

These opposing dynamics, between China and the US, are not, however, idiosyncratic aspects of Cino-American relations. Table 1 demonstrates that a similar pattern emerges between 'emerging' and 'established' powers.

Table 1: Emerging vs. Established Powers 2010	
GDP (PPP per capita)	
TOP 6 (highest)	BOTTOM 6 (lowest)
USA, Australia, Canada, Germany, UK, France	India, Indonesia, China, South Africa, Brazil, Turkey
Human Development Index	
TOP 6	BOTTOM 6
Australia, USA, Canada, Germany, Japan, Korea	India, Indonesia, South Africa, China, Turkey, Brazil
Unemployment	
TOP 6 (lowest unemployment)	TOP 6 (highest unemployment)
Korea, China, Japan, Australia, Mexico, Brazil	South Africa, Saudi Arabia, France, USA, Italy
Government Gross Debt	
TOP 6 (lowest debt)	TOP 6 (highest debt)
Russia, Saudi Arabia, China, Australia, Indonesia, Korea	Japan, Italy, USA, France, Canada, Germany
Government Deficit	
TOP 6 (lowest deficit)	TOP 6 (highest deficit)
Saudi Arabia, Korea, Indonesia, Argentina, China, Turkey	USA, UK, Japan, India, France South Africa
National Savings	
TOP 6 (high savings)	TOP 6 (low savings)
China, Saudi Arabia, India, Indonesia, Korea, Russia	UK, USA, Turkey, South Africa, Italy, Brazil
Current Account Balance	
TOP 6 (surpluses)	TOP 6 (deficits)
Saudi Arabia, Germany, China, Russia, Japan, Korea	Turkey, Italy, USA, UK, Canada, South Africa

Yet, Table 1 includes interesting deviations. For instance, Korea exceeds many European states in the Human Development Index. Australia is also an interesting case, as it seems to combine the strengths of both the 'established' and 'emerging' powers. Turkey, on the other hand, seems to follow the 'established powers' in terms of low savings and large current account deficits. Finally, Germany behaves as an emerging power in terms of its current account balance.

It seems there are two ways of reading the above data. They can be read as 'global imbalances' that require 'fixing' or signs of a changing global landscape; i.e., not as imbalances but as new/dynamic/changing equilibria. Where you stand depends on where you sit? The analysis that follows in this report and overall the project Wealth & Power aspires to shed light to this question.

Table 2: G20 Ranking														
RANKING 2010	Country	GDP per [PPP per capita] 2010	GDP [annual % change] 2010	Human Develop- ment Index 2011	Inflation [consumer prices % change] Low to High 2010	Unemploy- ment [Low to High] 2010	Government Gross Debt [GDP %] [Low to High] 2010	Government Net Sur- plus /Deficit [GDP %] [Low to High] 2010	Total Tax Rate [% commercial profits] [Low to High] 2010	R & D expenditure [High to Low] 2007	Final Consum- ption (GDP %) [High to Low] 2010	Total Investment [High to Low] 2010	Gross National Savings [High to Low] 2010	Current Account Balance [GDP %] [surplus to deficit] 2010
1	China	17	2	16	9	2	3	5	15	8	18	1	1	3
2	USA	1	14	2	4	14	17	19	9	3	2	18	18	17
3	Korea	8	6	6	8	1	6	2	3	2	14	4	5	6
4	Germany	4	12	4	2	7	14	8	11	4	11	17	10	2
5	Japan	7	10	5	1	3	19	17	12	1	10	11	9	5
6	Canada	3	13	3	6	12	15	13	2	6	8	9	12	15
7	France	6	17	7	5	15	16	15	16	5	5	16	13	10
8	Australia	2	16	1	7	4	4	12	10	n/a	n/a	5	7	13
9	Saudi Arabia	10	11	11	15	16	2	1	1	16	17	8	2	1
10	UK	5	19	9	10	11	13	18	5	7	1	19	19	16
11	Russia	12	9	13	16	9	1	9	8	n/a	13	10	6	4
12	India	19	1	19	19	n/a	12	16	14	12	15	2	3	12
13	Indonesia	18	7	18	14	8	5	3	6	n/a	16	3	4	7
14	Mexico	13	8	12	11	5	9	10	13	15	9	6	8	9
15	Italy	9	18	8	3	13	18	11	17	9	6	12	15	18
16	Brazil	15	5	14	13	6	11	7	18	10	4	15	14	11
17	Argentina	11	3	10	18	10	10	4	19	14	12	7	11	8
18	South Africa	16	15	17	12	18	7	14	4	11	7	14	16	14
19	Turkey	14	4	15	17	17	8	6	7	13	3	13	17	19

Gross Domestic Product (GDP)

According to the IMF, from which we draw the figures below, the GDP is the most commonly used single measure of a country's overall economic activity. It represents the total value of final goods and services produced within a country during a specified time period, such as one year.

Fig. 1 GDP Growth per Regions
(% change-constant prices)

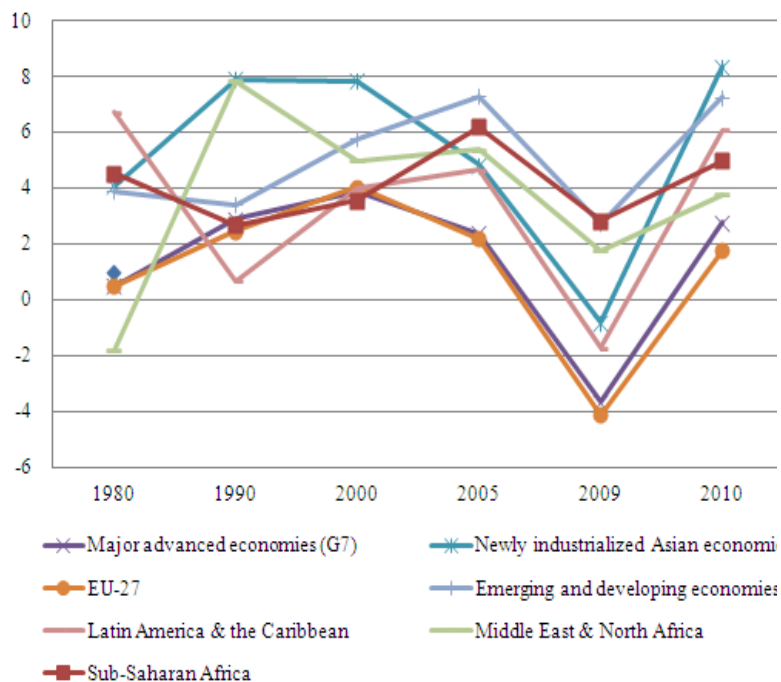


Figure 1 shows that, with regard to growth rates (% annual change), the advanced economies (G-7, EU-27) have lagged behind the emerging and developing economies, throughout the last 30 years. The IMF forecasts that this trend will continue for the years to come, while the distance between the developed and developing economies will grow larger.

Figure 2 confirms this. The share of the traditionally most advanced economies (USA, Japan, Germany) in the global GDP, measured at purchasing-power parity, was 40% of the total GDP in 1980, falling to 36.3% in 2000 and 29.5% in 2010. On the other hand, in the same period, China and India have almost tripled their share in the global GDP. In 1980 these

countries produced the 4.7% of the global GDP, climbing to 10.9% in 2000 and 19% in 2010. These trends indicate a clear shift in global economic power.

Fig.2 Share of World Total GDP (based on PPP) 2010

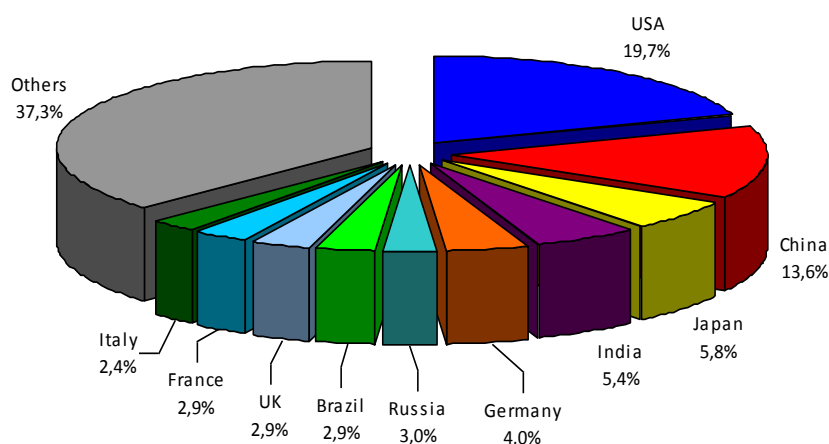


Table 1 demonstrates that, although USA remains the most powerful economy, China ascending rapidly the world economic ladder, overtaking traditional wealthy western economies.

Ranking 2010	Country	2010 GDP (\$ billions)	Ranking 2009	Ranking 2005	Ranking 2000	Ranking 1990	Ranking 1980
1	USA	14.657,80	1	1	1	1	1
2	China	5.878,26	3	5	6	10	11
3	Japan	5.458,87	2	2	2	2	2
4	Germany	3.315,64	4	3	3	3	3
5	France	2.582,53	5	6	5	4	4
6	UK	2.247,46	6	4	4	6	5
7	Brazil	2.090,31	8	10	10	9	16
8	Italy	2.055,11	7	7	7	5	6
9	Canada	1.574,05	10	8	8	7	7
10	India	1.537,97	11	13	13	12	12
11	Russia	1.465,08	12	14	19	n/a	n/a
12	Spain	1.409,95	9	9	11	8	9
13	Australia	1.235,54	13	15	14	11	14
14	Mexico	1.039,12	14	11	9	14	8
15	South Korea	1.007,08	15	12	12	15	27
16	Netherlands	783,29	16	16	15	13	13
17	Turkey	741,85	17	17	18	19	21
18	Indonesia	706,74	18	26	28	25	20
19	Switzerland	523,77	19	19	20	17	19
20	Poland	468,54	21	23	25	35	30
32	Greece	305,42	27	29	35	29	31

➤ Brazil and India consolidate their dynamic performance, securing their place among the top-10 wealthiest economies.

➤ Greece stood at the 32nd place in terms of its GDP (current prices) in 2010. The country's share in the global GDP decreased from 0.73% in 1980, to 0.57% in 1990, 0.49% in 2000 and 0.44% in 2010, revealing that the Greek economy is losing ground, especially after the 2009 crisis in Europe.

countries GDP growth rates have turned positive, the Greek economy is in deep recession during the last two years (2009-2010), slumping to the bottom of Euro area and EU27

2010 Ranking	EU member countries	2010 (% change - constant prices)	2009 Ranking	2005 Ranking	2000 Ranking	1990 Ranking	1980 Ranking
1	Sweden	5,5	18	16	11	13	5
2	Slovak Rep.	4	14	4	26	-	-
3	Poland	3,8	1	13	13	19	20
4	Malta	3,7	7	9	-	-	-
5	Germany	3,5	13	25	23	4	12
6	Luxembourg	3,4	8	8	3	5	8
7	Finland	3,1	24	17	6	15	4
8	Estonia	3,1	25	2	1	-	-
9	Czech Rep.	2,3	12	6	21	-	-
10	Denmark	2,1	16	19	22	12	17
11	Belgium	2	6	23	18	9	6
12	Austria	2	10	18	20	6	10
13	Netherlands	1,7	11	22	15	7	16
14	France	1,5	5	24	14	10	11
15	Portugal	1,4	4	26	16	1	1
16	Lithuania	1,3	26	3	24	-	-
17	Italy	1,3	17	27	19	11	18
18	UK	1,3	15	21	17	14	19
19	Hungary	1,2	20	15	9	17	15
20	Slovenia	1,2	23	10	12	-	-
21	Cyprus	1	2	12	8	3	2
22	Bulgaria	0,2	19	5	5	20	3
23	Spain	-0,1	9	14	7	8	13
24	Latvia	-0,3	27	1	4	-	-
25	Ireland	-1	22	7	2	2	9
26	Romania	-1,3	21	11	25	18	7
27	Greece	-4,5	3	20	10	16	14

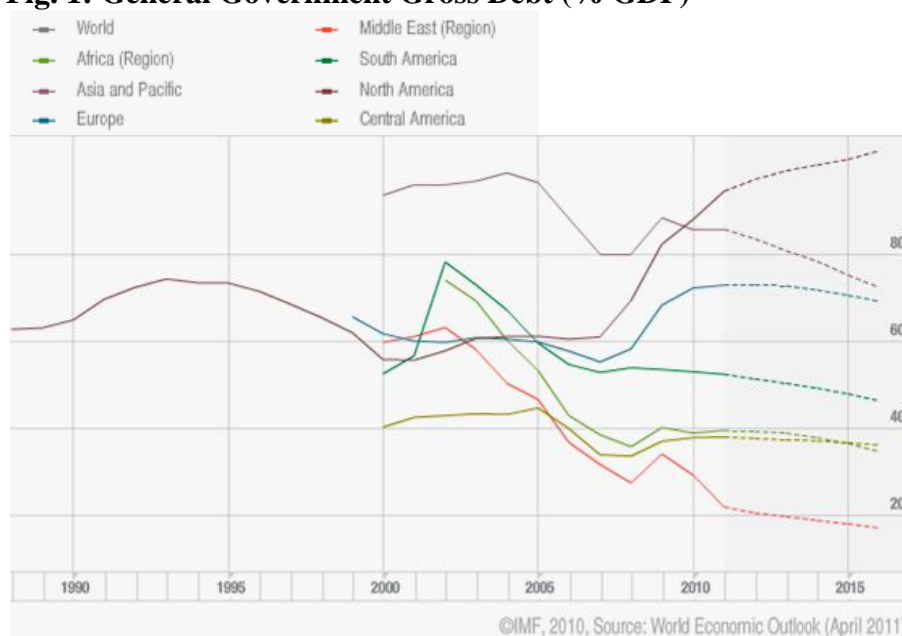
2010 Ranking	Country	2010 (% change - constant prices)	2009 Ranking
1	Slovak Rep.	4	12
2	Malta	3,7	6
3	Germany	3,5	11
4	Luxembourg	3,4	7
5	Finland	3,1	16
6	Belgium	2	5
7	Austria	2	9
8	Netherlands	1,7	10
9	France	1,5	4
10	Portugal	1,4	3
11	Italy	1,3	13
12	Slovenia	1,2	15
13	Cyprus	1	1
14	Spain	-0,1	8
15	Ireland	-1	14
16	Greece	-4,5	2

General Government Gross Debt

According to the IMF, from which we draw the figures below, the General Government Gross Debt consists of all liabilities that require payment or payments of interest and/or principal by the debtor to the creditor at a date or dates in the future. This includes debt liabilities in the form of SDRs, currency and deposits, debt securities, loans, insurance, pensions and standardized guarantee schemes, and other accounts payable. Thus, all liabilities in the GFSM 2001 system are debt, except for equity and investment fund shares and financial derivatives and employee stock options. On the other hand, General Government Net Debt refers to gross debt of the general government minus its financial assets in the form of debt instruments.

Since the broke out of the recent international financial crisis, the Government Gross Debt has become one of the most destabilizing factors of the world economy, threatening not only the global economic stability but also the efforts of the national and region economies, especially in the West, to overcome the present recession.

Fig. 1: General Government Gross Debt (% GDP)



As **Figure 1** and **Table 1** show, it is mostly the gross debt of the advanced economies which grew from 72.6% in 2000, to 98.68% in 2010, although the trend is upward almost globally.

Table 1: General government gross debt (% of GDP)						
Rank	Country Group Name	2010		Rank	Country Group Name	2009
1	Major advanced economies (G7)	112		1	Major advanced economies (G7)	105
2	Advanced economies	98,7		2	Advanced economies	93,2
3	Euro area	85		3	Euro area	79,3
4	European Union	79,5		4	European Union	73,9
5	Latin America and the Caribbean	50,4		5	Latin America and the Caribbean	51
6	Central and eastern Europe	46,9		6	Central and eastern Europe	45,8
7	Other advanced econ. (excl. G7 & euro	39,3		7	ASEAN-5	40,6
8	ASEAN-5	38,8		8	Other advanced econ. (excl. G7 & euro area)	39
9	Newly industrialized Asian economies	37,9		9	Newly industrialized Asian economies	38,9
10	Emerging and developing economies	35,1		10	Emerging and developing economies	35,9
11	Sub-Saharan Africa	31,4		11	Middle East and North Africa	34,7
12	Developing Asia	31		12	Sub-Saharan Africa	32,1
13	Middle East and North Africa	30,6		13	Developing Asia	31,6
14	Commonwealth of Independent States	13,1		14	Commonwealth of Independent States	13,5

Table 2 shows that the country with the heaviest debt burden in 2010 is Japan, and according to IMF estimates will remain so for the years to come.

Table 2: General Government Gross Debt (% GDP)							
Rank 2010	Country			Rank 2000			Rank 2013 (estimate)
1	Japan	220,002		Liberia	789,83		Japan
2	St. Kitts & Nevis	155,791		Mauritania	280,45		Greece
3	Eritrea	144,761		Serbia	241,653		St. Kitts & Nevis
4	Jamaica	143,357		Congo Dem. Rep.	237,276		Jamaica
5	Greece	142,757		Guinea-Bissau	227,689		Eritrea
6	Lebanon	134,065		Seychelles	172,561		Lebanon
7	Iraq	119,551		Sudan	172,285		Italy
8	Italy	118,995		Burundi	167,471		Ireland
9	Barbados	117,793		Congo Rep.	163,223		Portugal
10	Grenada	98,638		Sierra Leone	160,502		Barbados
11	Belgium	96,671		Eritrea	159,379		United States
12	Singapore	96,286		Syria	151,158		Grenada
13	Ireland	94,924		Lebanon	146		Bhutan
14	United States	94,356		Japan	142,059		Iceland
15	Portugal	92,919		Mozambique	131,874		Belgium
16	Iceland	92,372		Madagascar	127,434		France
17	Guinea	88,562		Ghana	123,346		Sudan
18	Mauritania	86,16		Kyrgyz Rep.	122,272		Singapore
19	Germany	83,964		Guyana	120,19		United Kingdom
20	Canada	83,953		Guinea	118,726		Guinea
21	Seychelles	83,11		Comoros	117,791		Syo Tomi & Prncipe
22	France	82,326		Tajikistan	111,429		St. Lucia
23	Belize	81,362		The Gambia	111,03		Canada
24	Nicaragua	80,337		Cote d'Ivoire	109,46		Germany
25	Hungary	80,197		Myanmar	109,236		Cape Verde

- Most alarming is the huge increase of the government debt for six European countries (Greece, Italy, Belgium, Ireland, Portugal and Iceland). Indicatively, whereas the Top 20 of most indebted countries in 2010 includes six EU member states, the same Top 20 list for 2000 included no EU member states. Furthermore, according to the IMF estimates high debt will continue to trouble the EU for the years to come.
- The escalation of the US debt, from c. 55% in 2000 to c. 94% in 2010 is also very worrying.
- The government debt of Greece, before the agreement that was reached on October 26, 2011, was projected to reach 187.9% of GDP in 2013.

Tables 3 & 4 show that the debt crisis that hit Europe after 2008 raised the average government debt far above the level prescribed in the Stability & Growth Pact (60%), from 62.37% in 2000 to 79.48% in 2010, endangering the prospects of the common currency and the efforts of the most debt-burden economies to return to positive growth rates.

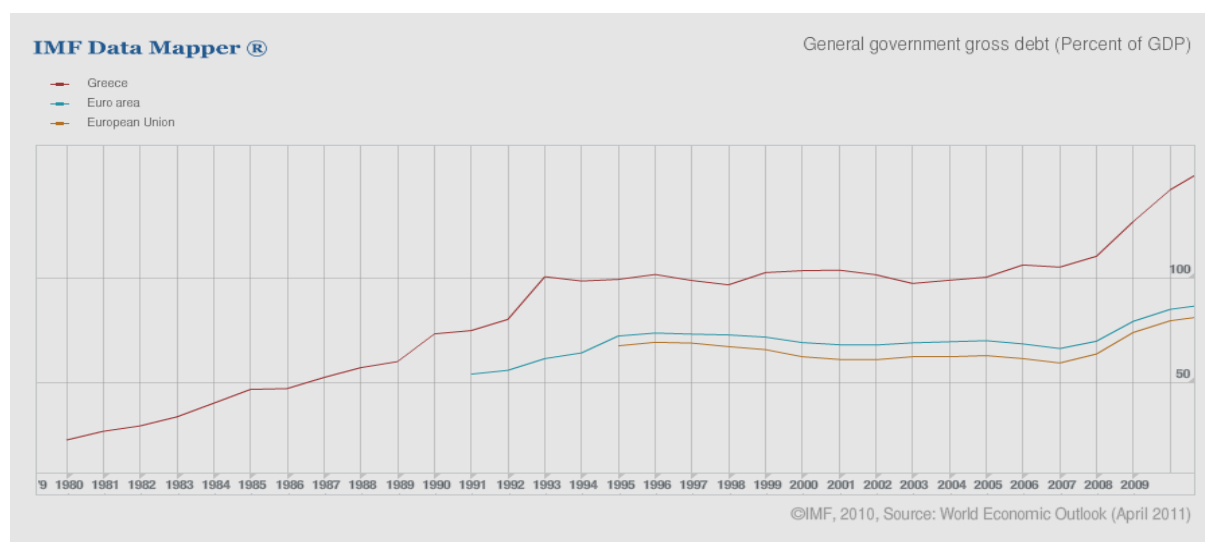
Table 3: General government gross debt (% of GDP) of the EU-27 countries

Rank 2009			Rank 2010		
1	Greece	126,81	1	Greece	142,02
2	Italy	116,07	2	Italy	119,01
3	Belgium	96,2	3	Belgium	97,14
4	Hungary	78,38	4	Ireland	96,15
5	France	78,08	5	France	84,25
6	Portugal	76,1	6	Portugal	83,32
7	Germany	73,51	7	Hungary	80,38
8	UK	68,33	8	Germany	79,99
9	Austria	67,47	9	UK	77,24
10	Malta	67,46	10	Austria	69,86
11	Ireland	65,5	11	Malta	67,01
12	Netherlands	60,77	12	Netherlands	63,68
13	Cyprus	57,99	13	Cyprus	61,66
14	Norway	54,26	14	Spain	60,11
15	Spain	53,19	15	Poland	55,66
16	Poland	50,93	16	Norway	54,26
17	Finland	43,81	17	Finland	48,37
18	Sweden	41,88	18	Denmark	44,25
19	Denmark	41,55	19	Slovak Rep.	42,05
20	Slovak Rep.	35,42	20	Latvia	39,89
21	Slovenia	35,38	21	Sweden	39,61
22	Czech Rep.	35,37	22	Czech Rep.	39,59
23	Latvia	32,83	23	Lithuania	38,67
24	Lithuania	29,62	24	Slovenia	37,16
25	Romania	29,58	25	Romania	35,23
26	Luxembourg	14,53	26	Luxembourg	16,56
27	Estonia	7,15	27	Estonia	6,56

Table 4: Euro zone general government gross debt (% of GDP)

2010 Ranking	Country	2010	2009 Ranking
1	Greece	142,02	1
2	Italy	119,01	2
3	Belgium	97,14	3
4	Ireland	96,15	9
5	France	84,25	4
6	Portugal	83,32	5
7	Germany	79,99	6
8	Austria	69,86	7
9	Malta	67,01	8
10	Netherlands	63,68	10
11	Cyprus	61,66	11
12	Spain	60,11	12
13	Finland	48,37	13
14	Slovak Rep.	42,05	14
15	Slovenia	37,16	15
16	Luxembourg	16,56	16

The Greek public debt has soared from c. 73% in 1990 to 103.4% in 2000, remaining at this level the years that followed the countries accession to the Eurozone. Greece's debt troubles became serious in 2009, reaching 126.8%, while in 2010 the gross debt reached 142%, expecting to climb further to 150% in 2011 (IMF Data Mapper, below).



Domestic credit to private sector (% of GDP)

According to the World Bank, from which we draw the following data, domestic credit to private sector refers to financial resources provided to the private sector, such as through loans, purchases of non-equity securities, and trade credits and other accounts receivable, that establish a claim for repayment. For some countries these claims include credit to public enterprises.

Table 1 offers the Top 20 of the states with the highest rate of domestic credit to private sector as a percentage of GDP.

Rank 2009	Country	2009	2007	2005	2000	1990	1980	1970
1	Cyprus	269,667	2	2	2	8	15	-
2	Denmark	231,63	4	6	6	34	36	13
3	Ireland	230,31	5	9	17	37	30	29
4	Netherlands	215,29	6	7	8	18	6	12
5	UK	213,522	7	10	10	6	65	42
6	Spain	211,489	8	12	22	20	8	11
7	United States	202,868	3	3	3	5	4	3
8	Portugal	187,788	12	13	11	45	14	10
9	Luxembourg	186,035	9	15	19	7	5	-
10	Switzerland	174,754	10	8	4	2	2	2
11	Japan	170,996	11	4	1	1	1	1
12	Hong Kong	157,993	14	11	5	3	-	-
13	South Africa	147,073	13	14	9	17	17	-
14	New Zealand	146,997	15	16	14	21	78	63
15	Sweden	139,347	18	22	63	4	9	4
16	St. Lucia	138,567	19	33	31	32	28	-
17	Malta	135,52	20	23	16	22	66	14
18	Australia	127,834	17	21	26	27	63	36
19	China	127,335	23	18	13	13	19	-
20	Austria	126,868	21	17	18	11	11	17

➤ It should be worrying for the EU that the first 6 countries are EU member states. Overall, eleven EU states are represented in the list. There is a clear upward pattern for private credit in Europe after 2000.

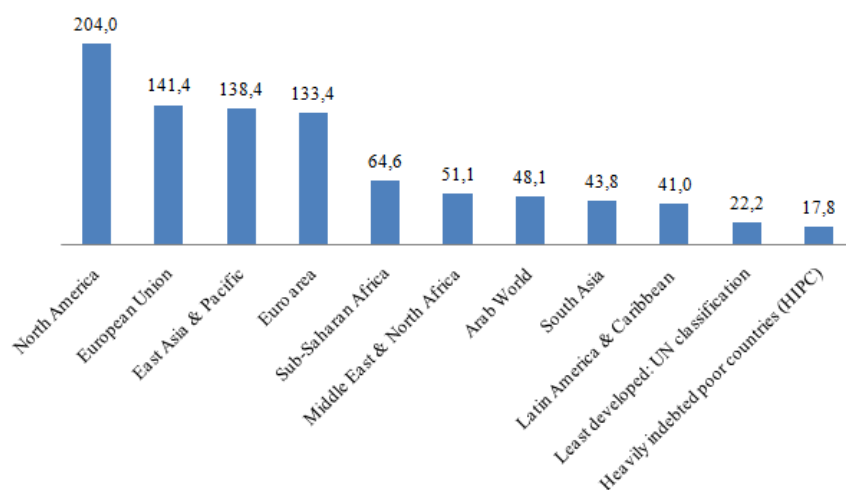
➤ Unexpectedly, the USA is not at the top of the list, but only at place 7.

➤ From the non-Western power, Japan is at the 11th place, and South Africa at the 13th. Surprisingly, China appears to be in this Top 20 list since the 1980s, being 19th in 2009.

➤ In 2009 Greece was

in the 38th place (with 92% of its GDP). Historically, Greece moved from 53rd in 1970, to 37th in 1980, to 65th in 1990, to 55th in 2000, to 35th in 2005.

Fig. 1: Domestic credit to private sector, per Region (% of GDP)



Yet, as **Figure 1** demonstrates, in terms of regions North America is first, with credit to the private sector reaching the alarming 204% of the region's GDP. Worrying. As expected the EU follows second and East Asia is third.

Government Revenue

According to the IMF, from which we draw the data below, revenue is an increase in net worth resulting from a transaction. For general government units, there are four main sources of revenue: taxes and other compulsory transfers imposed by government units, property income derived from the ownership of assets, sales of goods and services, and voluntary transfers received from other units.

Government revenue has a controversial place in the economic literature, since it has both growth and distributional effects, determining, among others, the relation between the structure of taxation and spending flows.

Table 1 shows the major trends in global economy during the last decade, classified by

Country Group \ Year	2010	2009	2008	2006	2004	2002	2000
Advanced economies	35,7	36	37,4	37,5	35,9	35,6	-
Major advanced economies (G7)	35,2	35,5	36,9	37,1	35,1	35	-
Newly industrialized Asian economies	22,1	21,6	22,7	21,7	20,4	20,2	21,4
European Union	43,2	43,4	43,8	44,1	43,3	43,5	44,9
Emerging and developing economies	27,1	26,3	29,5	28,6	25,6	24	23,4
Central and Eastern Europe	35,4	35,2	35,9	36,3	34,8	34,7	-
Developing Asia	19,5	19,3	19,9	19	17,6	16,8	15,1
Latin America and the Caribbean	31	29,1	30	28,8	26,1	25	24,4
Middle East and North Africa	36,5	35	45	42,9	35	30,1	-
Sub-Saharan Africa	26,7	24,3	29,7	30,2	25,6	24	25,5

economic as well as geographical criteria. The figures illustrate a uniform trend among the more advanced economies, that retain relative high state-income ratios (around 40%),

while the emerging and developing economies have lower rates of government revenue, fluctuating from 20% (in developing Asia countries) to c. 30 % for Latin America and other developing regions.

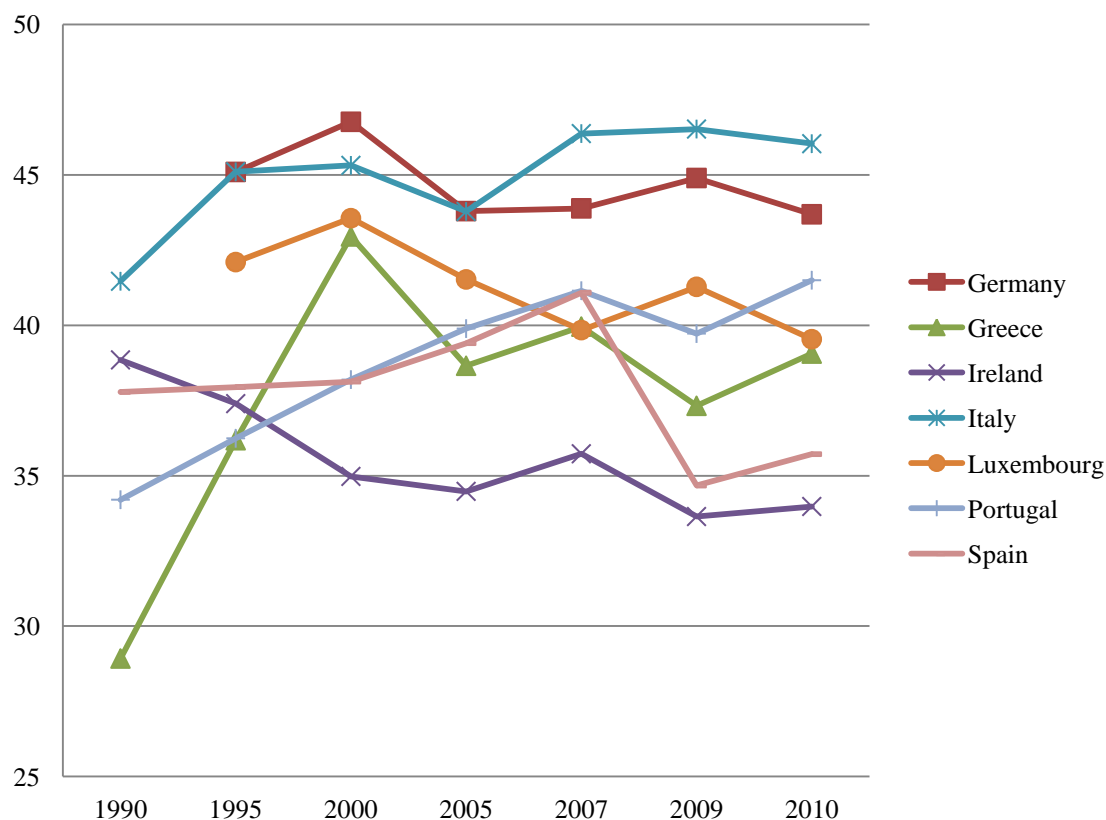
Table 2 reveals the different budget approaches regarding state revenues among the most advanced economies (G-20).

- The strongest European economies (with the exemption of the UK) have high revenue rates (above 40%; France has the highest rates, exceeding 48%).
- USA and Japan lag behind by almost 10%.
- Low levels of government revenues are showed by the new global challengers, China and India, around 20%.

2010 Ranking	2009 Ranking	Change from 2009	Country	2010	2009	% Change
1	1	-	France	48,9	48,4	1,08%
2	5	3	Saudi Arabia	48,5	41,1	18,01%
3	2	-1	Italy	46	46,5	-1,05%
4	3	-1	Germany	43,3	44,5	-2,69%
5	4	-1	EU	43,2	43,4	-0,35%
6	8	2	Argentina	38,9	36,1	7,77%
7	6	-1	Canada	38	38,3	-0,67%
8	9	1	Brazil	37,4	35,6	5,18%
9	7	-2	UK	36,5	36,8	-0,73%
10	10	-	Russia	35,3	35,1	0,64%
11	11	-	Australia	32,5	33,5	-2,95%
12	12	-	Turkey	32,2	31,7	1,68%
13	14	1	Japan	30,8	29,8	3,19%
14	13	-1	USA	30,5	30,8	-0,87%
15	15	-	South Africa	27,5	27,3	0,89%
16	16	-	Korea	23,7	24	-1,38%
17	17	-	Mexico	22,1	22	0,55%
18	18	-	China	20,4	20	1,81%
19	19	-	India	17,5	18	-2,86%
20	20	-	Indonesia	17,1	16,5	3,33%

Figure 1 shows government revenues in the five European countries with the severest financial problems (the infamous PIIGS), in comparison to Germany. Italy has a similar behaviour with the European core (around 45%), while Ireland resembles the Anglo-Saxon pattern with lower revenue rates (around 35%). In between, lie the three Mediterranean economies, with Portugal and Greece showing a better performance the last couple years, in comparison to Spain

Fig. 1: General Government Revenue (%GDP)



Government Expenses

According to the IMF, from which we draw the data below, expense is a decrease in net worth resulting from a transaction. Governments have 2 broad economic responsibilities: to assume responsibility for the provision of selected goods and services to the community on a nonmarket basis and to redistribute income and wealth by means of transfer payments. These responsibilities are largely fulfilled through expense transactions.

The widespread pressure for state downsizing, which holds that governments have become too large and should be reduced in size, is acquiring a new momentum at the present high-debt international environment.

Table 1 demonstrates that public expenditures, viewed as a percentage of GDP, has risen sharply in the 2000s, almost in all regions. The expenditure-to-GDP ratio (all levels of government) rose in advanced economies from 38,3 percent in 2001 to 43,3 percent by 2010 (the corresponding ratios for EU are 46 % and 50%), significantly stretching their budgets and putting under the spotlight the fiscal role of government.

Table 1: General government total expenditure (% of GDP)							
Country Group Name	2010	2009	2008	2006	2004	2002	2000
Advanced economies	43,34	44,66	40,8	38,93	39,23	39,11	n/a
Euro area	50,47	50,77	46,92	46,6	47,39	47,41	46,01
Major advanced economies (G7)	43,94	45,29	41,34	39,36	39,37	39,3	n/a
Newly industrialized Asian economies	20,73	22,67	21,76	19,82	19,96	20,87	20,74
Other advanced economies (excl. G7 & euro area)	34,89	36,13	33,81	32,58	33,98	33,85	32,58
European Union	49,76	50,02	46,09	45,6	46,18	46,03	44,66
Emerging and developing economies	29,98	30,5	28,57	27,12	26,47	27,81	25,36
Central and eastern Europe	40,24	41,14	38,91	38,21	38,88	42,8	n/a
Commonwealth of Independent States	37,98	40	34,86	31,57	32,05	35,17	32,29
Developing Asia	23,21	23,62	21,8	20,49	20,24	21,21	19,64
ASEAN-5	21,88	22,9	22,55	21,47	21,88	23,08	20,09
Latin America and the Caribbean	34,02	33,12	30,92	30,11	27,97	29,4	27,34
Middle East and North Africa	34,29	36,51	31,75	29,94	29,4	31,19	n/a
Sub-Saharan Africa	30,71	29,95	28,05	24,61	25,28	25,34	25,98

Table 2: G-20 Government Total Expenditure (% of GDP)					
Rank	Country	2010		Country	2009
1	France	56,67	1	France	55,99
2	Italy	50,61	2	Italy	51,82
3	EU	49,76	3	EU	50,02
4	UK	46,97	4	Germany	47,5
5	Germany	46,57	5	UK	47,1
6	Canada	43,54	6	Saudi Arabia	45,71
7	USA	41,12	7	Canada	43,8
8	Saudi Arabia	40,81	8	USA	43,49
9	Argentina	40,61	9	Russia	41,37
10	Brazil	40,34	10	Japan	40,08
11	Japan	40,25	11	Argentina	39,85
12	Russia	38,89	12	Brazil	38,76
13	Australia	37,16	13	Australia	37,65
14	Turkey	34,85	14	Turkey	37,29
15	South Africa	33,26	15	South Africa	32,39
16	India	26,47	16	India	27,35
17	Mexico	26,23	17	Mexico	26,89
18	China	22,94	18	Korea	23,97
19	Korea	21,29	19	China	23,1
20	Indonesia	17,64	20	Indonesia	18,26

Table 2 shows that the leading European economies have the highest public-expenditure-to- GDP ratio amongst the most advanced economies. France is first with 56% (almost 5% above from the EU average).

- USA and Japan, maintain their budget expenditures around 40%.
- Impressive are the figures for China and India, 22,9% and 26,5% respectively, which demonstrate the different nature of political economy in the emerging and established economic powers.

- **Table 3** presents the EU27 ranking for 2010 and comparable data for the period 2000-2010. It also includes data for the EU candidate countries.

Table 3: General government total expenditure (% of GDP) in EU								
Rank 2010	Countries	2010	2009	2008	2006	2004	2002	2000
1	Ireland	67,65	48,57	41,67	33,36	32,73	32,68	30,54
2	Denmark	58,54	58,25	51,97	51,75	54,81	54,85	54,04
3	France	56,67	55,99	52,8	52,71	53,19	52,64	51,64
4	Finland	55,1	56,25	49,35	49,03	50,04	48,85	48,29
5	Belgium	53,4	54,14	50,15	48,57	49,33	49,78	49,1
6	Austria	52,29	52,32	48,79	49,4	54,02	50,96	52,13
7	Sweden	51,44	52,99	49,41	50,63	52,01	53,49	52,68
8	Italy	50,61	51,82	48,83	48,71	47,74	47,38	46,18
9	Netherlands	50,09	50,62	45,76	45,6	46,09	46,21	44,17
10	Greece	49,81	53,16	49,22	45,16	45,52	45,09	46,64
11	Hungary	48,7	50,44	48,85	52,04	48,7	51,04	48,07
12	Portugal	48,34	48,19	43,6	44,5	44,64	42,26	41,08
13	UK	46,97	47,1	42,66	40,62	39,76	38,2	36,6
14	Cyprus	46,66	45,76	42,49	43,44	42,78	40,25	36,99
15	Germany	46,57	47,5	43,75	45,31	47,09	48,1	45,11
16	Poland	46,35	44,45	43,2	43,86	42,62	44,26	41,08
17	Slovenia	46,24	46,26	41,39	42,54	42,67	42,08	41,73
18	Czech Rep.	45,66	45,93	42,89	43,74	45,14	46,31	41,82
19	Estonia	45,48	47,58	41,54	34,57	34,6	34,22	34,96
20	Spain	44,96	45,8	41,29	38,39	38,87	38,89	39,12
21	Latvia	44,07	44,03	42,87	36,56	35,18	35,12	36,71
22	Malta	42,69	43,17	43,58	44,3	45,61	43,16	41
23	Lithuania	41,9	44,13	37,48	33,88	33,34	33,44	36,2
24	Luxembourg	41,7	42,17	36,88	38,58	42,56	41,53	37,59
25	Slovakia	39,6	41,51	34,96	36,62	37,67	45,06	52,14
26	Romania	39,38	38,71	36,99	33,67	33,33	32,14	34,99
27	Bulgaria	36,32	36,17	35,17	33,65	35,81	36,01	n/a
	EU candidates	2010	2009	2008	2006	2004	2002	2000
	Croatia	42,71	42,79	41,18	42,28	43,09	45,44	n/a
	Iceland	49,02	50,04	44,6	41,64	45,88	46	43,74
	FYRoM	32,79	33,3	33,41	32,49	35,16	40,51	33,68
	Turkey	34,85	37,29	33,82	32,67	35,1	42,61	n/a

- In 2010 the financial and banking-sector problems in Ireland rocketed its budget expenditures from 48,5% in 2009 to 67,6 % in 2010.
- Second in government expenditure as a percent of GDP was Denmark (58.5%), followed in the third place by France (56.6%).
- The South European countries are in-between places 8 and 19, thus being in the middle of the ranking.
- Three new EU member states, Slovakia, Romania and Bulgaria, are at the bottom of the EU27 list, spending below 40% of their GDP

Unemployment

According to the World Bank, Unemployment refers to the share of the labour force that is without work but available for and seeking employment. All data below come from the IMF World Economic Outlook Database.

Table 1: Top-50 countries in unemployment rates (% of total labour force)					
Rank 2010	Country	2010	Rank 2009	Country	2009
1	FYRoM	32,18	1	FYRoM	32,18
2	Bosnia	27,2	2	Swaziland	25
3	Swaziland	25	3	South Africa	24,3
4	South Africa	24,8	4	Bosnia	24,07
5	Spain	20,07	5	Spain	18,01
6	Serbia	19,44	6	Serbia	17,4
7	Latvia	18,98	7	Latvia	17,32
8	Lithuania	17,81	8	Cape Verde	17
9	Estonia	16,88	9	Georgia	16,9
10	Georgia	16,8	10	Sudan	14,89
11	Bahamas	15	11	Dominican	14,86
12	Slovakia	14,38	12	Bahamas	14,2
13	Dominican	14	13	Turkey	14,03
14	Sudan	13,73	14	Estonia	13,77
15	Ireland	13,63	15	Lithuania	13,71
16	Tunisia	13	16	Tunisia	13,3
17	Belize	12,92	17	Albania	13,1
18	Albania	12,5	18	Jordan	12,94
19	Jordan	12,5	19	S.Tome	12,91
20	S.Tome	12,48	20	Belize	12,73
21	Greece	12,46	21	Slovakia	12,05
22	Croatia	12,34	22	Colombia	12
23	Turkey	11,89	23	Ireland	11,83
24	Colombia	11,8	24	Jamaica	11,35
25	Jamaica	11,75	25	Saudi Arabia	10,46
26	Hungary	11,24	26	Algeria	10,21
27	Portugal	10,98	27	Barbados	10,21
28	Barbados	10,6	28	Hungary	10,08
29	Saudi Arabia	10,48	29	Chile	9,63
30	Bulgaria	10,3	30	Portugal	9,62
31	Algeria	10,03	31	Nicaragua	9,56
32	France	9,73	32	France	9,5
33	USA	9,63	33	Egypt	9,45
34	Nicaragua	9,5	34	Greece	9,38
35	Egypt	9,2	35	USA	9,28
36	Morocco	9	36	Morocco	9,1
37	Poland	9	37	Croatia	9,05
38	Venezuela	8,6	38	El Salvador	8,88
39	Italy	8,49	39	Ukraine	8,84
40	Syria	8,4	40	Argentina	8,68
41	Finland	8,38	41	Peru	8,6
42	Sweden	8,37	42	Ecuador	8,5
43	Belgium	8,36	43	Russia	8,4
44	Chile	8,3	44	Costa Rica	8,4
45	Iceland	8,13	45	Sweden	8,3
46	Ukraine	8,05	46	Canada	8,29
47	Peru	8,02	47	Finland	8,25
48	Canada	7,99	48	Poland	8,17
49	UK	7,84	49	Brazil	8,1
50	Trinidad	7,8	50	Syria	8,1

Although unemployment is a familiar phenomenon in modern economies, it has been emerging considerably since the crisis of 2008.

Table 1 shows the first 50 countries with the worst unemployment rates for the last two years:

➤ As a result of the present recessional international environment, unemployment has risen, if slightly, in almost all countries, most notably, however, in those European economies with the severest financial problems (especially, Spain, Greece and Ireland).

➤ Countries with more flexible labour markers (such as US and UK) have retained their ratios almost intact in 2009/10.

➤ Notably, some emerging economies accomplished to lower significantly their unemployment rates (Brazil: from 8,1% in 2009 to 6,7% in 2010; Russia: from 8,4% in 2009 to 7,5% in 2010; Turkey: from 14% in 2009 to 11,9 in 2010).

Table 2 offers the unemployment ranking for the European Union members and the EU

Table 2: Unemployment in EU member and candidate countries (% total labour force)					
2010 Ranking	2009 Ranking	Change from 2009	Country	2010	2009
1	1	-	FYRoM	32,2	32,2
2	2	-	Spain	20,1	18
3	3	-	Latvia	19	17,3
4	6	2	Lithuania	17,8	13,7
5	5	-	Estonia	16,9	13,8
6	7	1	Slovakia	14,4	12,1
7	8	1	Ireland	13,6	11,8
8	12	4	Greece	12,5	9,4
9	13	4	Croatia	12,3	9,1
10	4	-6	Turkey	11,9	14
11	9	-2	Hungary	11,2	10,1
12	10	-2	Portugal	11	9,6
13	23	10	Bulgaria	10,3	6,9
14	11	-3	France	9,7	9,5
15	16	1	Poland	9	8,2
16	19	3	Italy	8,5	7,8
17	15	-2	Finland	8,4	8,3
18	14	-4	Sweden	8,4	8,3
19	17	-2	Belgium	8,4	8
20	18	-2	Iceland	8,1	8
21	21	-	UK	7,8	7,5
22	25	3	Romania	7,6	6,3
23	24	1	Czech Rep.	7,3	6,7
24	26	2	Slovenia	7,2	5,9
25	20	-5	Germany	6,9	7,5
26	28	2	Cyprus	6,8	5,3
27	22	-5	Malta	6,5	7
28	27	-1	Luxembourg	6,1	5,8
29	31	2	Netherlands	4,5	3,4
30	29	-1	Austria	4,4	4,8
31	30	-1	Denmark	4,2	3,6

candidate countries for the past two years. The most negative changes during this period happened in Bulgaria (from 23rd place in 2009 to 13th place in 2010) and Greece (12th in 2009, to 8th in 2010). Germany, Sweden and Malta experienced a positive change the last two years.

Long-term Unemployment

According to the World Bank, from which we draw the following data, long-term unemployment refers to the number of people with continuous periods of unemployment extending for a year or longer, expressed as a percentage of the total unemployed.

As it has already observed by many studies, the problem of long-term unemployment is

Rank 2009	Country	2009	Rank 2008	Country	2008
1	Kosovo	81,7	1	FYRoM	84,9
2	FYRoM	81,6	2	Kosovo	81,8
3	Croatia	56,2	3	Serbia	71,13
4	Slovakia	50,9	4	Slovakia	66
5	Germany	45,5	5	Croatia	63
6	Italy	44,4	6	Germany	52,6
7	Belgium	44,2	7	Bulgaria	51,7
8	Portugal	44,2	8	Czech Rep.	50,2
9	Malta	44	9	Belgium	47,6
10	Bulgaria	43,3	10	Hungary	47,6
11	Hungary	42,6	11	Greece	47,5
12	Greece	40,8	12	Portugal	47,4
13	France	35,4	13	Italy	45,7
14	Romania	31,6	14	Malta	42,4
15	Czech Rep.	31,2	15	Slovenia	42,2
16	Spain	30,2	16	Romania	41,3
17	Slovenia	30,1	17	France	37,9
18	Switzerland	30	18	Russia	35,7
19	Ireland	29	19	Netherlands	34,8
20	Japan	28,5	20	Switzerland	34,3

unemployment (to total unemployment) from 45,1% in 2000, to 34,2% in 2009.

mainly a European one. **Table 1** confirms emphatically this conclusion. The Top-20 list of the countries with the highest long term unemployment rates is dominated by European states.

➤ Moreover, the problem is not constrained in the European periphery. Germany, Italy and France have all registered high long-term unemployment rates in 2009 (45,5%, 44,4% and 35,4%, respectively).

➤ These high rates underline the need for a new employment strategy, in the EU.

Yet, as **Table 2** shows, even though Japan and especially U.S. present lower long-term unemployment, the EU has succeeded to reduce the percentage of its long-term

Country	2009	2008	2007	2005	2000	1990	1980
Australia	14,7	14,9	15,4	18,3	25,5	21,1	19,2
Canada	7,8	7,1	7,5	9,6	11,2	7,2	5,3
France	35,4	37,9	40,4	41,4	42,6	38,1	35,1
Germany	45,5	52,6	56,6	53	51,5	46,8	-
Italy	44,4	45,7	47,4	49,9	61,3	69,8	-
Japan	28,5	33,3	32	33,3	25,5	19,1	16,5
Korea	0,5	2,7	0,6	0,8	2,3	2,6	-
Mexico	1,9	1,7	2,7	2,3	1,2	-	-
Russia	-	35,7	41,2	38,9	47,4	-	-
South Africa	14,4	13,4	-	-	-	-	-
Turkey	25,3	26,9	30,3	39,4	5,3	47	-
UK	24,6	24,1	23,8	21,1	28	34,4	-
USA	16,3	10,6	10	11,8	6	5,5	4,3
EU	34,2	37,5	41,5	43,2	45,1	46,8	-

Note: World Banks offer no data for Argentina, Brazil, China, India, Indonesia and Saudi Arabia

Investment

Investment measures the amount of an economy's annual production used to increase its productive capacity. By enhancing productivity, investment leads to economic growth. Despite its small magnitude relative to the other components of GDP (total consumption and net exports), investment's highly volatile and cyclical nature has significant impact upon employment and output. The following data and rankings are based on the World Economic Outlook Database September 2011, IMF.

Table 1: Ranking of advanced economies according to Gross Investment as a % of GDP.

2016	2010	Country	2009	2005	2000
4	1	Korea	3	2	2
1	2	Australia	1	6	13
2	3	Singapore	2	25	1
13	4	Hong Kong SAR	7	23	6
20	5	Spain	4	3	8
5	6	Slovenia	5	7	7
7	7	Taiwan Province of China	22	13	11
11	8	Czech Republic	6	9	3
15	9	Slovak Republic	14	4	10
8	10	Canada	9	16	30
17	11	Austria	8	14	14
12	12	Norway	12	20	29
14	13	Japan	10	12	12
22	14	Italy	18	22	27
25	15	Belgium	11	18	20
3	16	Estonia	19	1	5
9	17	New Zealand	16	10	23
16	18	France	17	27	31
31	19	Portugal	13	11	4
21	20	Netherlands	20	30	22
18	21	Finland	21	17	26
6	22	Sweden	29	32	32
10	23	Switzerland	15	19	18
24	24	Cyprus	23	26	33
23	25	Germany	27	33	21
27	26	Malta	25	29	9
32	27	Denmark	24	21	24
29	28	Luxembourg	28	15	19
19	29	Israel	26	31	28
26	30	United States	31	24	25
30	31	United Kingdom	34	34	34
33	32	Greece	30	28	16
28	33	Iceland	33	5	17
34	34	Ireland	32	8	15

that have improved their position the most by 2010 are: Colombia (+44), Bulgaria (+38), Argentina (+37), Qatar (+37), and Romania (+21).

The largest reductions in gross investment as % GDP, in the developing/emerging world, are recorded in Hungary

Among advanced economies, significant changes have occurred at the top and at the bottom of the ranking as shown in Table 1.

➤ Australia moved up to 2nd place in 2010 from the 13th place in 2000. In addition, compared to 2000, Canada, Norway, Italy, France and Australia have significantly improved their position by moving up 20, 17, 13, 13 and 11 places, respectively.

➤ During the period 2000-2010, the worst five performers are Ireland (moved from the 15th to 34th position), Malta (lost 17 positions), Greece and Iceland (both lost 16 positions) and Portugal (lost 15 positions).

According to the IMF's projections for 2016, Sweden (+16), Switzerland (+13), Estonia (+13), Israel (+10) and New Zealand (+8) are expected to improve their position significantly. On the other hand, significant negative changes are projected for Spain (-15), Portugal (-12), Belgium (-10), Hong Kong (-7) and Italy (-12).

Table 2 presents the ranking of selected emerging/ developing economies. Compared to 2000, the five countries

Table 2: Ranking of emerging/developing according to Gross Investment as a % of GDP.

2016	2010	Country	2009	2005	2000
3	3	China	3	7	9
9	13	Vietnam	10	14	17
5	17	India	12	17	37
7	23	Indonesia	28	46	52
38	29	Qatar	15	19	66
29	43	Chile	58	73	53
27	44	Romania	46	63	75
53	51	Mexico	59	50	33
19	53	Bulgaria	34	34	91
43	58	Argentina	79	83	95
69	69	Saudi Arabia	48	104	83
78	71	Colombia	68	87	115
92	82	Venezuela	49	67	38
64	83	Poland	83	97	36
56	89	Russia	105	95	84
107	91	Turkey	120	89	60
48	96	Ukraine	102	71	69
63	97	United Arab Emirates	55	98	59
73	98	South Africa	88	106	109
82	99	Brazil	109	121	88
97	101	Egypt	92	105	72
110	104	Hungary	91	52	19
87	107	Uruguay	101	112	118
88	128	Kuwait	125	119	125

(-85), Poland (-47), Venezuela (-44), United Arab Emirates (-38) and Turkey (-31).

According to the IMF's projections for 2016, the largest increases in gross investment as expected in Ukraine (+48), Kuwait (+40), United Arab Emirates (34), Bulgaria (+34) and Russia (+33). On the other hand, gross investment is expected to decrease significantly in Turkey (-16), Venezuela (-10), Qatar (-9), Colombia (-9), and Hungary (-6).

Table 3 presents the ranking of the G20 countries.

- Notably, China and India have maintained the 1st and 2nd position respectively throughout the decade and are expected to keep their position by 2016. No significant changes are projected for the US.
- During the period 2000-2010, Argentina (+11), Saudi Arabia (+6), Indonesia (+5), Russia (+5) and South Africa (+5) exhibit the most notable improvement in their ranking. The opposite is the case for Germany (-10), United States (-9), Japan (-7), France (-3) and Turkey (-3).

2016	2010	Country	2009	2005	2000
1	1	China	1	1	1
2	2	India	2	2	6
3	3	Indonesia	3	5	8
6	4	Korea	5	3	2
4	5	Australia	4	4	5
7	6	Mexico	7	6	3
5	7	Argentina	8	9	18
9	8	Saudi Arabia	6	15	14
10	9	Canada	9	8	12
8	10	Russia	14	14	15
12	11	Japan	10	7	4
15	12	Italy	13	10	11
17	13	Turkey	17	12	10
11	14	South Africa	11	16	19
14	15	Brazil	16	19	16
13	16	France	12	13	13
16	17	Germany	15	17	7
18	18	United States	18	11	9
19	19	United Kingdom	19	18	17

2016	2010	Country	2009	2005	2000
6	1	Spain	1	1	3
1	2	Slovenia	2	3	2
2	3	Slovak Republic	6	2	5
4	4	Austria	3	6	6
8	5	Italy	8	10	14
11	6	Belgium	4	9	10
3	7	France	7	12	15
14	8	Portugal	5	5	1
7	9	Netherlands	9	15	12
5	10	Finland	10	8	13
10	11	Cyprus	11	11	16
9	12	Germany	13	16	11
12	13	Malta	12	14	4
13	14	Luxembourg	14	7	9
15	15	Greece	15	13	8
16	16	Ireland	16	4	7

Within the eurozone, Spain and Slovenia have maintained their 1st and 2nd positions throughout the decade as is shown in **Table 4**. However, Spain is expected to drop to the 6th position by 2016.

The five countries that have improved their ranking the most since 2000 are: Italy (+9), France (+8), Cyprus (+5), Belgium (+4) and Netherlands (+3). In contrast, Ireland (-9), Malta (-7), Greece (-7) and Portugal (-7) register the largest reductions. Finally, according to the IMF's projections for 2016, Finland (+5), France (+4), and Germany (+3) are the countries that are expected to experience the highest upward movement, while Portugal (-6), Spain (-5), Belgium (-5), and Italy (-3) are the countries that are expected to experience the highest reductions in gross investment.

Saving

National Saving is the unspent income, that is, saving equals the portion of gross disposable income not spent on final consumption. The role of saving is a moot point among economists and policy makers. An increase in saving may lead to economic growth, since more funds and resources are available for investment. However, it can also create a shortfall in demand which in turn leads to unemployment and a decline in GDP. Significantly different saving rates between various economies is considered one of the reasons for the emergence of global imbalances as well as the current economic crisis. The following data and rankings are based on the World Economic Outlook Database September 2011, IMF.

Table 1 presents the ranking of the advanced economies on the basis of national saving expressed as a % of GDP.

Table 1: Ranking of advanced economies according to National Saving as a % of GDP.					
2016	2010	Country	2009	2005	2000
1	1	Singapore	1	1	1
2	2	Norway	2	2	3
3	3	Taiwan Prov. of China	5	6	7
6	4	Korea	3	5	4
4	5	Hong Kong SAR	4	4	5
8	6	Netherlands	8	8	12
14	7	Australia	7	20	21
5	8	Sweden	9	13	18
9	9	Austria	6	12	13
7	10	Luxembourg	10	3	2
10	11	Japan	12	7	8
16	12	Estonia	11	16	17
12	13	Germany	13	19	23
11	14	Finland	14	10	6
15	15	Slovenia	15	9	10
17	16	Denmark	16	11	19
18	17	Belgium	18	17	9
21	18	Slovak Republic	24	23	16
19	19	Canada	21	15	14
13	20	Israel	17	22	25
20	21	Czech Republic	20	14	11
22	22	France	22	24	22
23	23	Spain	19	21	20
24	24	Italy	23	25	24
26	25	New Zealand	25	26	28
28	26	United States	27	27	26
30	27	Malta	30	33	31
27	28	United Kingdom	26	28	30
32	29	Ireland	28	18	15
31	30	Cyprus	29	29	32
29	31	Portugal	31	30	27
33	32	Greece	32	31	29
25	33	Iceland	33	32	33
34	34	Switzerland	34	34	34

as a % of GDP.

➤ Confirming the nature of the East Asian political economy model, four East Asia economies are at the top of the table. In contrast, the eurozone members of South Europe occupy consistently the lower part of the table.

➤ Interestingly, during the past decade, the largest increases in terms of national saving are observed in Australia (+14), Germany (+10), Sweden (+10), and Netherlands (+6), while the largest decreases are observed in Ireland (-14), Czech Republic (-10), Belgium (-8), Luxemburg (-8) and Finland (-8).

➤ According to the IMF's projections for 2016, large increases in the national saving are expected in Iceland (+8) and Israel (+7), while the opposite is predicted for Australia (-7) and Estonia (-4).

Table 2 offers the respective ranking for selected emerging and developing economies. Oil-producing Qatar and China occupied in 2010 the first two places in the Table.

➤ During the past decade, the largest increases in national saving are recorded in Bulgaria (+58), Argentina (+48), Uruguay (+37), Chile (+26), and India (+23). On the other hand, during the same period, Ukraine (-39), Turkey (-29), Russia (-25), and Poland (-19) register the largest decreases in their national saving account.

Table 2: Ranking of emerging/developing economies according to National Saving as a % of GDP.

2016	2010	Country	2009	2005	2000
5	1	Qatar	4	3	7
2	2	China	1	6	13
4	7	Kuwait	9	4	4
24	9	Saudi Arabia	21	7	29
12	17	Vietnam	18	20	19
8	18	India	12	23	41
10	21	Indonesia	13	41	27
28	29	Chile	36	52	55
20	34	United Arab Emirates	30	25	18
51	36	Venezuela	29	11	17
42	39	Russia	56	27	14
47	44	Mexico	49	49	43
33	47	Bulgaria	59	93	105
46	53	Argentina	46	47	101
39	56	Romania	54	100	61
90	59	Hungary	63	91	53
63	68	Colombia	58	76	82
74	73	Uruguay	70	81	110
60	75	Ukraine	78	40	36
81	77	Brazil	86	82	93
80	78	Egypt	72	60	65
85	81	South Africa	79	102	85
75	83	Poland	73	86	64
119	101	Turkey	97	95	72

Table. This is not expected to change, at least in the near future.

- The most significant positive changes during the past decade are those registered in

Table 4: Ranking of eurozone economies according to National Saving as a % of GDP.

2016	2010	Country	2009	2005	2000
2	1	Netherlands	2	2	5
3	2	Austria	1	5	6
1	3	Luxembourg	3	1	1
5	4	Germany	4	8	11
4	5	Finland	5	4	2
6	6	Slovenia	6	3	4
7	7	Belgium	7	6	3
8	8	Slovak Republic	11	10	8
9	9	France	9	11	10
10	10	Spain	8	9	9
11	11	Italy	10	12	12
13	12	Malta	14	16	15
15	13	Ireland	12	7	7
14	14	Cyprus	13	13	16
12	15	Portugal	15	14	13
16	16	Greece	16	15	14

➤ According to the IMF's projections for 2016, national saving is expected to increase significantly in Romania (+17), Ukraine (+15), Bulgaria (+14), United Arab Emirates (+14) and Indonesia (+11), and decrease in Hungary (-31), Turkey (-18), Venezuela (-15), and Saudi Arabia (-15).

➤ Notable is Turkey's continuous descending trajectory in the ranking during 2000-2016.

Table 3 the G20 Ranking for Saving as % GDP.

➤ During the past decade, China has persistently been at the top, and the USA and UK at the bottom of the

Table 3: Ranking of G20 economies according to National Saving as a % of GDP.

2016	2010	Country	2009	2005	2000
1	1	China	1	1	1
4	2	Saudi Arabia	4	2	6
2	3	India	2	3	8
3	4	Indonesia	3	7	5
5	5	Korea	5	4	3
6	6	Russia	11	5	2
11	7	Australia	6	12	10
8	8	Mexico	9	10	9
9	9	Japan	8	6	4
10	10	Germany	10	11	12
7	11	Argentina	7	8	19
12	12	Canada	12	9	7
13	13	France	13	13	11
15	14	Brazil	16	15	18
14	15	Italy	14	14	13
16	16	South Africa	15	18	16
19	17	Turkey	17	16	15
18	18	United States	19	17	14
17	19	United Kingdom	18	19	17

Argentina (+8), India (+5), Saudi Arabia (+4), Brazil (+4) and Australia (+4). On the other hand, the largest negative changes are those recorded in Canada (-5), Japan (-5), United States (-4) and Russia (-4).

Table 4 presents the Eurozone states Ranking. The most significant changes during the past decade are the following: Germany (+7), Netherlands (+4), Austria (+4), Ireland (-6), Belgium (-4), Finland (-3), Greece (-2) and Portugal (-2). According to the IMF's projections, Portugal (+3) and Luxemburg (+2) are expected to improve their place by 2016.

Current Account Balance

The current account – a major component of the Balance of Payments – is a record of the domestic economy's transactions on goods and services, income and current transfers with the rest world. Although it is widely acceptable among economists that persistent and/or growing current account imbalances are problematical, their diagnosis has proven a difficult task. For some, a deficit is a sign of domestic economy's strength, while for others, it reflects weakness, necessitating corrective economic policy measures. Increases in domestic investment, or consumption smoothing are considered "good" causes for a deficit; while, profligate behavior of private and/or public sector are considered "bad" economic reasons for a deficit, that raise sustainability concerns. The following data and rankings are based on the World Economic Outlook Database September 2011, IMF.

Table 1 presents the ranking of the advanced economies on the basis of current account expressed as a % of GDP.

2016	2010	Country	2009	2005	2000
1	1	Singapore	1	1	4
3	2	Switzerland	3	3	3
2	3	Norway	2	2	1
5	4	Taiwan Province of China	4	9	10
4	5	Luxembourg	7	4	2
8	6	Netherlands	9	6	13
9	7	Sweden	6	7	6
6	8	Hong Kong SAR	5	5	7
10	9	Germany	8	8	19
7	10	Denmark	12	10	15
14	11	Japan	15	11	12
30	12	Estonia	10	32	30
12	13	Finland	16	12	5
15	14	Israel	13	13	20
16	15	Korea	11	14	9
11	16	Austria	14	15	18
13	17	Belgium	17	16	8
17	18	Ireland	24	23	16
24	19	Slovenia	18	21	22
27	20	France	19	18	14
32	21	Australia	28	24	24
25	22	Canada	25	17	11
18	23	United Kingdom	20	22	21
29	24	United States	22	25	26
22	25	Italy	21	20	17
21	26	Slovak Republic	26	30	23
20	27	Czech Republic	27	19	28
34	28	New Zealand	23	29	27
26	29	Spain	29	27	25
31	30	Malta	30	31	34
33	31	Cyprus	31	26	29
28	32	Portugal	32	33	33
19	33	Iceland	34	34	32
23	34	Greece	33	28	31

➤ The advanced economies that have registered the most significant positive changes in their current account, since 2010, are: Estonia (+18), Germany (+10), Netherlands (+7), Taiwan (+6) and Israel (+6).

➤ The opposite trend is observed in Canada (-11), Belgium (-9), Italy (-8), Finland (-8) and France (-6).

➤ According to the IMF's projections, Iceland (+14), Greece (+11), the Czech Republic (+7), Austria (+5) and the United Kingdom (+5) are expected to significantly improve their place by 2016. In contrast, the most significant negative changes are those projected for Estonia (-18), Australia (-11), France (-7), New Zealand (-6) and Slovenia (-5).

Table 2 presents the ranking of selected emerging/developing

2016	2010	Country	2009	2005	2000
4	3	Kuwait	3	4	7
5	5	Qatar	8	5	9
19	7	Saudi Arabia	14	6	29
17	16	United Arab Emirates	23	15	15
16	19	China	16	25	40
25	22	Venezuela	26	11	20
38	24	Russia	21	16	11
53	34	Hungary	34	104	125
51	35	Chile	31	44	53
44	38	Indonesia	27	56	34
43	39	Argentina	29	35	74
47	40	Uruguay	33	50	65
41	41	Mexico	42	54	67
73	42	Bulgaria	101	126	99
50	48	Egypt	52	32	52
72	50	Ukraine	47	33	35
66	52	Brazil	48	39	80
58	56	India	54	60	50
94	60	South Africa	65	78	43
52	63	Colombia	50	61	41
48	67	Vietnam	84	58	36
80	71	Romania	66	109	73
90	74	Poland	63	70	107
121	88	Turkey	51	86	79

economies. The countries that have experience significant changes in their current account balance during the past decade are the following. Positive change: Hungary (+81), Bulgaria (+57), Argentina (+35), Poland (+33) and Brazil (+28). Negative change: Vietnam (-31), Columbia (-22), South Africa (-17), Ukraine (-15) and Russia (-13). According to the IMF's projections for 2016, Vietnam (+19), Colombia (+11), and China (+3) will improve their ranking the most by 2016. On the other hand, South Africa (-34), Turkey (-33), Bulgaria (-31), Ukraine (-22) and Hungary (-19) are projected to experience significant deterioration in their relative places in the Ranking.

Significant changes are also observed in the G20 Ranking (**Table 3**). During the past decade

2016	2010	Country	2009	2005	2000
2	1	Saudi Arabia	2	1	2
3	2	Germany	1	4	12
1	3	China	3	3	7
6	4	Russia	4	2	1
4	5	Japan	6	5	6
5	6	Korea	5	7	4
10	7	Indonesia	7	12	3
9	8	Argentina	8	6	15
8	9	Mexico	9	11	14
13	10	France	10	10	8
16	11	Brazil	11	9	17
15	12	India	16	13	11
18	13	Australia	19	18	18
17	14	South Africa	18	16	9
12	15	Canada	17	8	5
7	16	United Kingdom	12	15	13
14	17	United States	15	19	19
11	18	Italy	13	14	10
19	19	Turkey	14	17	16

moved significantly upwards in the Table. The opposite is observed for France (-4) and Belgium (-3), which show the largest negative change since 2000.

- According to the IMF's projections, by 2016, Greece (+6) and the Slovak Republic (+7), are projected to show the most significant improvement in their ranking. On the other hand, France (-4), Slovenia (-3), Cyprus and Malta (both -2) are projected to move downwards.

Germany (+10), Argentina (+7), Brazil (+6), Mexico and Australia (both +5) have moved significantly upwards in the Table, while Canada (-10), Italy (-8), South Africa (-5), and Indonesia (-4), have lost significant ground.

- According to the IMF's projections for 2016, the UK (+9), Italy (+7), Canada and the US (both +3), and China (+1) are expected to improve their place, while Australia (-5) and Brazil (-5) are expected to lose ground.

Table 4 offers the Eurozone states Ranking.

- During the past decade, Germany (+6), Austria and Malta (both +3), have

2016	2010	Country	2009	2005	2000
1	1	Luxembourg	1	1	1
2	2	Netherlands	3	2	4
3	3	Germany	2	3	9
5	4	Finland	5	4	2
4	5	Austria	4	5	8
6	6	Belgium	6	6	3
7	7	Ireland	10	10	6
11	8	Slovenia	7	9	10
13	9	France	8	7	5
9	10	Italy	9	8	7
8	11	Slovak Republic	11	14	11
12	12	Spain	12	12	12
15	13	Malta	13	15	16
16	14	Cyprus	14	11	13
14	15	Portugal	15	16	15
10	16	Greece	16	13	14

Final Consumption

On average, world-wide, approximately two thirds of an economy's GDP is purchased by households, general government and non-profit institutions. With such a large share of domestic demand, final consumption expenditure has an important bearing on an economy's GDP growth and its economic cycle, as well as –in the case of large economies– on international trade and global GDP growth. Significant differences in final consumption levels, especially among large economies (notably between China, USA and large commodity producers), are indicative of a non optimal distribution of demand worldwide. Such differences have been at the centre of discussions regarding the root causes of the 2008 economic crisis. The Mutual Assessment Process, adopted by the G20 in order to promote better coordination of economic policies and external sustainability, focus implicitly on final consumption expenditure levels. We draw the following data from the World Bank.

Table 1: Ranking of advanced economies according to Final Consumption as a % of GDP.					
2009	Country Name	2008	2007	2005	2000
1	Greece	1	1	1	1
2	United Kingdom	4	4	2	3
3	United States	2	2	3	5
4	Portugal	3	3	4	6
5	Malta	6	8	5	2
6	France	8	9	9	9
7	Italy	9	10	10	10
8	Israel	7	6	8	8
9	Canada	14	14	20	20
10	New Zealand	10	11	12	13
11	Finland	20	21	21	27
12	Japan	13	15	16	23
13	Denmark	17	17	18	24
14	Germany	16	16	11	11
15	Spain	12	12	14	14
16	Iceland	11	7	6	4
17	Belgium	15	18	19	19
18	Sweden	22	20	17	18
19	Estonia	18	24	24	17
20	Netherlands	24	22	25	25
21	Austria	23	23	22	21
22	Slovenia	25	25	23	16
23	Czech Republic	26	28	27	22
24	Hong Kong SAR, CH	28	27	29	28
25	Ireland	29	30	31	30
26	Korea, Rep.	27	26	28	29
27	Switzerland	30	29	26	26
28	Slovak Republic	21	19	15	15
29	Norway	31	31	30	31
30	Luxembourg	33	32	32	32
31	Singapore	32	33	33	33
N/A	Cyprus	5	5	7	7
N/A	Australia	19	13	13	12

Table 1 presents the Ranking of advanced economies on final consumption as a % of GDP.

➤ Notably, during the past decade, there is no variation at the top and bottom of the Table, with Greece, the UK, and Portugal constantly on the top, and Norway, Luxemburg and Singapore, persistently at the bottom.

➤ Yet, beyond the extremes, significant changes do take place. Specifically, large increases in final consumption are observed in Finland (+16), Canada (+11), Denmark and Japan (both +11), while the opposite trend is observed in the Slovak Republic (-13), Iceland (-12), Slovenia (-6) and Germany (-3).

Table 2 presents the ranking of selected emerging/developing economies.

- During the past decade, the most significant upward movements, in terms of final consumption expenditure, are those recorded in Ukraine (+12), Russia (+8), Venezuela (+7), Turkey (+6), and South Africa (+4). In contrast, large decreases in final consumption are observed in Hungary (-9), Romania (-8), Argentina (-7), Uruguay (-6) and India (-5).

2009	Country Name	2008	2007	2005	2000
1	United Kingdom	2	2	1	2
2	United States	1	1	2	4
3	Turkey	3	3	3	5
4	Brazil	7	5	6	3
5	France	5	6	5	7
6	Italy	6	7	7	8
7	South Africa	4	4	4	6
8	Canada	9	10	12	13
9	Mexico	10	8	9	9
10	Japan	8	11	11	14
11	Germany	11	12	8	10
12	Argentina	13	13	13	1
13	Russian Federation	17	16	17	19
14	Korea, Rep.	16	15	16	16
15	India	15	17	15	12
16	Indonesia	14	14	14	15
17	Saudi Arabia	19	18	19	17
18	China	18	19	18	18
N/A	Australia	12	9	10	11

Among the G20, the United Kingdom, the United States and Turkey persistently occupy the first places in the ranking (see **Table 3**).

Respectively, at the bottom of the Table are

China and Saudi Arabia that show the lowest levels of final consumption, in the G20.

The most significant upwards movements in the Ranking are those recorded by Russia (+6), Canada (+5), and Japan (+4). On the other hand, Argentina and India have lost 11 and 3 places respectively.

Table 4 offers the rankings of the eurozone states. In a rather stable picture, during the past decade, the most significant changes concern Finland (+5), the Slovak Republic (-5) and Slovenia (-3).

2009	Country Name	2008	2007	2005	2000
1	Egypt, Arab Rep.	1	2	3	3
2	Turkey	3	3	4	8
3	Ukraine	7	9	11	15
4	Brazil	10	8	9	7
5	Bulgaria	2	1	2	2
6	South Africa	6	6	5	10
7	Uruguay	4	5	8	1
8	Poland	8	10	7	9
9	Colombia	9	7	6	5
10	Mexico	13	12	10	11
11	Venezuela, RB	19	17	20	18
12	Romania	5	4	1	4
13	Argentina	14	14	13	6
14	Russian Federation	18	16	18	22
15	Chile	16	19	15	14
16	Vietnam	12	13	16	16
17	India	17	18	17	12
18	Indonesia	15	15	14	17
19	Saudi Arabia	21	21	22	20
20	China	20	22	21	21
21	Qatar	23	24	24	24
22	Hungary	11	11	12	13
23	Kuwait	22	23	23	19
24	United Arab Emirates	24	20	19	23

2009	Country Name	2008	2007	2005	2000
1	Greece	1	1	1	1
2	Portugal	2	2	2	3
3	Malta	4	4	3	2
4	France	5	5	5	5
5	Italy	6	6	6	6
6	Finland	10	11	11	14
7	Germany	9	8	7	7
8	Spain	7	7	8	8
9	Belgium	8	9	10	11
10	Netherlands	13	12	14	13
11	Austria	12	13	12	12
12	Slovenia	14	14	13	10
13	Ireland	15	15	15	15
14	Slovak Republic	11	10	9	9
15	Luxembourg	16	16	16	16
N/A	Cyprus	3	3	4	4

Competitiveness

The following data and rankings are based on the World Economic Forum's Global Competitiveness index. The latter is construed on the basis of 12 variables: institutions, infrastructure, macroeconomic environment, health and primary education, higher education and training, goods market efficiency, labour market efficiency, financial market development, technological readiness, market size, business sophistication, and innovation.

As we see in **Figure 1**, in 2010, Switzerland maintained its position as the most competitive economy in the world, followed by Sweden which overtook the 2nd place from the US.

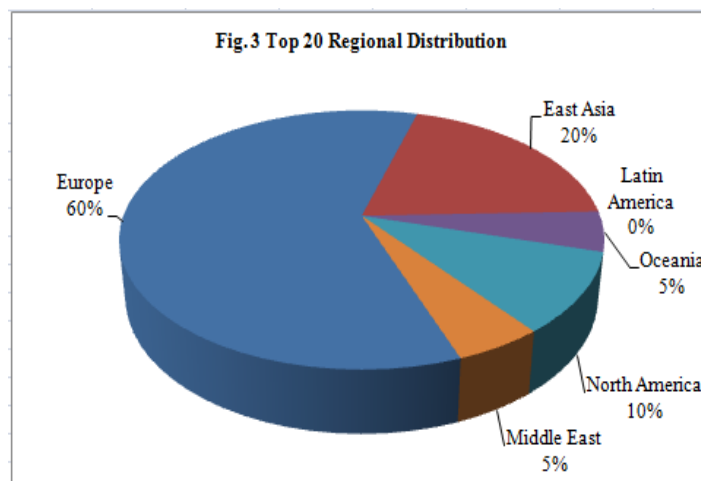
- Most significant negative changes in the Top 20 Ranking is that of Denmark (-4) and the USA (-2). On the positive side, Qatar moved from 22nd to 17th, while Germany, Japan, and the Netherlands moved 2 places up.
- With regard to BRIC, China is 27th (2 places up from 2009), India is 51st (-2), Brazil is 58th (-2) and Russia maintained its 63rd place. Turkey also maintained its 61st place.
- Out of 144 countries participating in the index, Greece is 83rd. In fact, Greece moved down from 71st in 2009 to 83rd in 2010.

Fig.1: Top 20 Most Competitive Economies 2010		Change from 2009
1	Switzerland	0
2	Sweden	2
3	Singapore	0
4	USA	-2
5	Germany	2
6	Japan	2
7	Finland	-1
8	Netherlands	2
9	Denmark	-4
10	Canada	-1
11	Hong Kong	0
12	UK	1
13	Taiwan	-1
14	Norway	0
15	France	1
16	Australia	-1
17	Qatar	5
18	Austria	-1
19	Belgium	-1
20	Luxembourg	1

Figure 2 includes the 20 most competitive countries in the European Union. Interestingly enough, the Scandinavian countries dominate the TOP 5 with Sweden, Finland and Denmark being 1st, 3rd and 5th respectively. France is 7th, below Germany (2nd) and the UK (6th). Spain, Slovenia and Cyprus lost significant ground in term of competitiveness in 2010, while the Polish economy seems to go from strength to strength.

Fig. 2: EU TOP 20			
		Global Place 2010	Change from 2009
1	Sweden	2	2
2	Germany	5	2
3	Finland	7	-1
4	Netherlands	8	2
5	Denmark	9	-4
6	UK	12	1
7	France	15	1
8	Austria	18	-1
9	Belgium	19	-1
10	Luxembourg	20	1
11	Ireland	29	-4
12	Estonia	33	2
13	Czech Rep.	36	-5
14	Poland	39	7
15	Cyprus	40	-6
16	Spain	42	-9
17	Slovenia	45	-8
18	Portugal	46	-3
19	Lithuania	47	6
20	Italy	48	0

With regard to the regional distribution of the most competitive countries, **Figure 3** shows that Europe is first, followed by East Asia and North America.

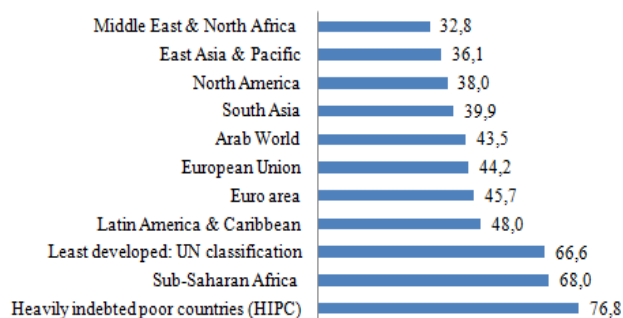


Total tax rate (% of commercial profits)

According to the World Bank, from which we draw the following data, the Total Tax Rate measures the amount of taxes and mandatory contributions payable by businesses after accounting for allowable deductions and exemptions as a share of commercial profits. Taxes withheld (such as personal income tax) or collected and remitted to tax authorities as value added taxes, sales taxes or goods and service are excluded.

Rank 2010	Country Name		Rank 2005	Country Name	
1	Congo, Dem. Rep.	339,7	1	Congo, Dem. Rep.	287,1
2	Gambia, The	292,3	2	Gambia, The	286,3
3	Sierra Leone	235,6	3	Burundi	278,7
4	Comoros	217,9	4	Sierra Leone	272,4
5	Central African Rep.	203,8	5	Comoros	217,9
6	Burundi	153,4	6	Yemen, Rep.	195,3
7	Argentina	108,2	7	Belarus	137,5
8	Uzbekistan	95,6	8	Argentina	108,1
9	Tajikistan	86	9	Uzbekistan	96,7
10	Eritrea	84,5	10	Mauritania	94,9
11	Belarus	80,4	11	Eritrea	82,5
12	Bolivia	80	12	Colombia	82,1
13	Colombia	78,7	13	Tajikistan	82,1
14	Palau	73	14	Bolivia	80
15	Algeria	72	15	China	80
16	Brazil	69	16	Italy	77,5
17	Italy	68,6	17	Algeria	76,9
18	Mauritania	68,4	18	Benin	75,8
19	Puerto Rico	67,7	19	Palau	73
20	Benin	66	20	Uruguay	71,4
21	France	65,8	21	Brazil	68,8
22	Congo, Rep.	65,5	22	Kyrgyz Republic	68,2
23	Chad	65,4	23	France	66
24	Marshall Islands	64,9	24	Central African Rep.	65,7
25	Sri Lanka	64,7	25	India	65,5
26	China	63,5	26	Congo, Rep.	65,4
27	India	63,3	27	Marshall Islands	64,9
28	Nicaragua	63,2	28	Chad	63,7
29	Tunisia	62,8	29	Nicaragua	63,5
30	Equatorial Guinea	59,5	30	Spain	61,8

Fig. 1: Total tax rate (% of commercial profits),
per Region



1	Timor-Leste	0,2
2	Vanuatu	8,4
3	Maldives	9,3
4	Namibia	9,6
5	Macedonia, FYR	10,6
6	Qatar	11,3
7	UAE	14,1
8	Saudi Arabia	14,5
9	Bahrain	15
10	Georgia	15,3
11	Kuwait	15,5
12	Zambia	16,1
13	Kosovo	16,5
14	W. Bank & Gaza	16,8
15	Samoa	18,9
16	Botswana	19,5
17	Lesotho	19,6
18	Luxembourg	21,1
19	Oman	21,6
20	Cambodia	22,5
21	Bosnia & Herzeg.	23
22	Mongolia	23
23	Cyprus	23,2
24	Hong Kong	24,1
25	Mauritius	24,1
26	Chile	25
27	Malawi	25,1
28	Singapore	25,4
29	Tonga	25,5
30	Ireland	26,5
31	Montenegro	26,6
32	Iceland	26,8
33	Suriname	27,9
34	Iraq	28,4
35	Bulgaria	29
36	Canada	29,2
37	Denmark	29,2
38	Kazakhstan	29,6
39	Brunei	29,8
40	Korea, Rep.	29,8
41	Switzerland	30,1
42	Lebanon	30,2
43	South Africa	30,5
44	Moldova	30,9
45	Ethiopia	31,1
46	Jordan	31,2
47	Rwanda	31,3
48	Pakistan	31,6
49	Israel	31,7
50	Kiribati	31,8
51	Nigeria	32,2
52	Croatia	32,5
53	Ghana	32,7
54	Trinidad & Tob.	33,1
55	Vietnam	33,1
56	Belize	33,2
57	Sao Tome & Prin.	33,3
58	Lao	33,7
59	Malaysia	33,7
60	Serbia	34

(such
taxes)

New businesses registered (number)

Here the World Bank, from which we draw this data, monitors the number of new limited liability corporations registered in each calendar year.

Rank 2009	Country	2009	2008	2007	2006	2005	2004
1	UK	330100	2	1	2	2	1
2	Brazil	315645	3	3	3	3	2
3	Russia	261633	1	2	1	1	-
4	Canada	174000	4	4	4	4	3
5	France	128906	5	5	7	6	5
6	Hong Kong	101023	9	10	10	12	13
7	Spain	79757	6	6	5	5	4
8	Italy	68508	11	11	11	10	9
9	Nigeria	65089	13	18	23	26	27
10	Romania	56698	8	8	8	8	7
11	Peru	51151	16	20	22	23	21
12	New Zealand	47897	15	12	12	13	10
13	Turkey	44472	17	14	15	14	14
14	Mexico	44084	18	19	16	18	-
15	Hungary	42951	19	32	35	33	24
16	Malaysia	41638	20	21	18	17	15
17	Bulgaria	35545	21	17	21	24	26
18	Netherlands	35100	22	26	20	25	22
19	Colombia	31132	27	31	30	30	-
20	Belgium	29548	26	28	28	29	20

The number of limited liability corporations registered in any economy any single year is determined by diverse factors (e.g. stage of economic development, size of the economy, taxation, investment incentives etc.) that make any comparisons between states difficult. Furthermore, the World Bank does not have (recent) data available for a number of 'systemically important' countries such as the USA, China, India and Germany. Taking these significant limitations into consideration, **Table 1 & 2** offer some comparative insights, if only for the countries included in the Tables, as to how 'business friendly' and/or 'dynamic' their economies are. The size of each economy should however be kept as a decisive dimension for any comparisons made.

- The presence of Brazil and Russia at the Top 5 places of Table 1 is a clear testament of the dynamism and rising place of BRICs in the world economy.
- It is worth noticing that the Top 20 includes a number of diverse economies (e.g. Anglo-Saxon, Continental, Mediterranean, CEE), which means that state policies & state agency may be more important than state structures, in terms of attracting/encouraging the creation of new businesses.
- Greece was at 60th in 2007 from 54th in 2004.

	Country Name	
1	United Kingdom	330100
2	Brazil	315645
3	Russia	261633
4	Canada	174000
5	France	128906
6	Hong Kong	101023
7	Spain	79757
8	Italy	68508
9	Nigeria	65089
10	Romania	56698
11	Peru	51151
12	New Zealand	47897
13	Turkey	44472
14	Mexico	44084
15	Hungary	42951
16	Malaysia	41638
17	Bulgaria	35545
18	Netherlands	35100
19	Colombia	31132
20	Belgium	29548
21	Indonesia	28998
22	Kazakhstan	27978
23	Portugal	27759
24	Thailand	27520
25	Costa Rica	26765
26	Singapore	26416
27	Morocco	26166
28	Switzerland	25250
29	South Africa	24700
30	Sweden	24228
31	Czech Republic	21717
32	Ukraine	19300
36	Poland	14434
37	Uzbekistan	14428
38	Ireland	13188
39	Dominican Rep.	12881
40	Argentina	11924
41	Finland	11820
42	Philippines	11435
43	Uganda	11152
44	Algeria	10544
45	Serbia	9715
46	Tunisia	9079
47	Macedonia, FYR	8074
48	Croatia	7800
49	Georgia	7226
50	Latvia	7175

Market Capitalization of Listed Companies

According to the definition used by the World Bank, from which we draw the data below, market capitalization (also known as market value) is the share price times the number of shares outstanding (i.e. shares that have been issued and traded by investors), of publicly listed companies. Listed domestic companies are the domestically incorporated companies listed on the country's stock exchanges at the end of the year. Listed companies do not include investment companies, mutual funds, or other collective investment vehicles.

Fig.1: Market Capitalisation of Listed Companies, 2010
(current US\$)

Rank	Country	US\$	2000	1990
1	US	17.138.978.000.000	1	1
2	China	4.762.836.764.951	11	57
3	Japan	4.099.591.000.000	2	2
4	UK	3.107.037.940.785	3	3
5	Hong Kong	2.711.333.603.754	10	15
6	Canada	2.160.228.651.940	6	6
7	France	1.926.488.295.470	4	5
8	India	1.615.860.000.000	22	19
9	Brazil	1.545.565.661.434	16	26
10	Australia	1.454.546.975.050	13	13
11	Germany	1.429.706.705.313	5	4
12	Switzerland	1.229.356.532.561	7	7
13	Spain	1.171.614.868.753	12	11
14	Korea	1.089.216.501.207	19	-
15	South Africa	1.012.538.251.294	17	9
16	Russia	1.004.524.776.255	34	-
17	Netherlands	661.203.716.196	9	10
18	Sweden	581.173.906.900	14	14
19	Mexico	454.345.259.111	23	21
20	Malaysia	410.534.133.290	24	17

moves in the global economy, as well as the extend to which the 'financial world' has outperformed the 'production world' (often referred to as the 'real economy'), is reflected in the fact that the value of the world market cap increased from \$9.4 trillion in 1990 to \$56.2 trillion in 2010. The instability currently experienced in the global political economy has its roots, at least partly, here.

Figure 2 and **Map 1** (next page) attempt to capture part of these dynamics as a % of GDP. Indeed, according to the World Bank, world market capitalisation from 47.5% of world GDP in 1990, increased to 101.7% of world GDP in 2000, and fell to 90,5% of world GDP in 2010.

Figure 1 illustrates the changing geography and power of money markets.

➤ The USA remains the unrivaled giant with a market cap of 17.1 trillion dollars, in 2010, when share values were low.

➤ In one more great leap forward, China, from 57th in 1990 raised to 2nd in 2010. Hong Kong's upward move to the 5th place from 15th in 1990 is also impressive, and adds to China's projection of stock money power.

➤ Indeed, a comparison of the 1990 and 2010 rankings is indicative of the great changes that have taken place in the global economy. The 1990 Top 10 included the western world plus Japan. In the 2010 Top 10, India is 8th from 19th in 1990, Brazil is 9th from 26th in 1990, Russia is 16th from 34th in 2000.

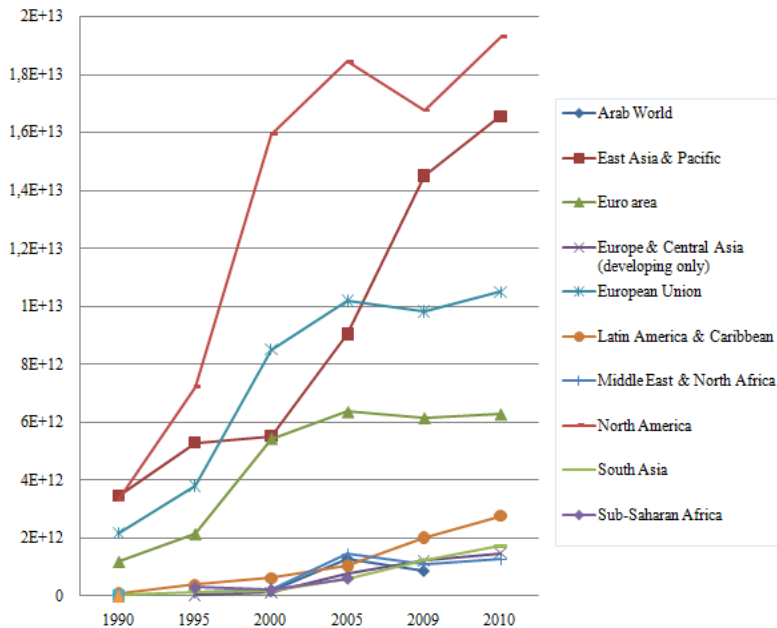
➤ The way and the speed with which money

Fig.2: Market Capitalisation of Listed Companies, 2009
(% of GDP)

Rank	Country	GDP %	2008	2005	2000	1990
1	South Africa	246,456	2	5	9	1
2	Luxembourg	201,26	6	12	5	7
3	Singapore	170,533	9	3	7	5
4	Jordan	139,831	4	2	28	10
5	Australia	136,072	19	19	14	16
6	Malaysia	133,586	10	15	11	2
7	UK	128,6	15	14	4	6
8	Chile	127,987	12	20	19	11
9	Canada	125,814	16	16	12	13
10	St. Kitts & Nevis	118,912	7	41	-	-
11	Sweden	106,458	29	22	10	15
12	USA	105,759	11	13	8	9
13	Montenegro	104,977	20	46	-	-
14	Korea	100,474	25	29	46	12
15	China	100,46	21	59	35	-
16	Israel	93,4829	17	27	33	43
17	India	90,0062	24	38	45	37
18	Spain	88,8359	22	30	16	23
19	Saudi Arabia	86,3444	28	7	40	-
20	France	74,4337	27	31	13	21

Market Capitalization of Listed Companies, per Region

Fig. 3: Market Capitalization of Listed Companies, per Region
(current US\$)

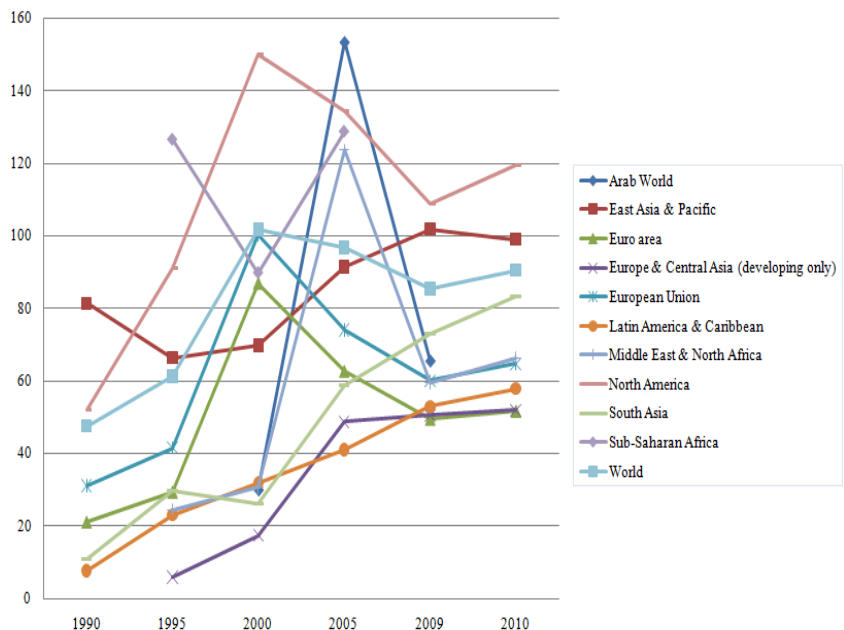


GDP. The growing power of global finance is illustrated in the rapid growth of world market cap after 1995. Despite regional fluctuations, climaxing in 2005, market cap is higher in North America (close to 120% of the regions GDP in 2010). East Asia and Pacific follows with market cap close to 100% of the region's GDP. The EU comes 3rd, with a market cap close to 65% in 2010 (52% for euro zone).

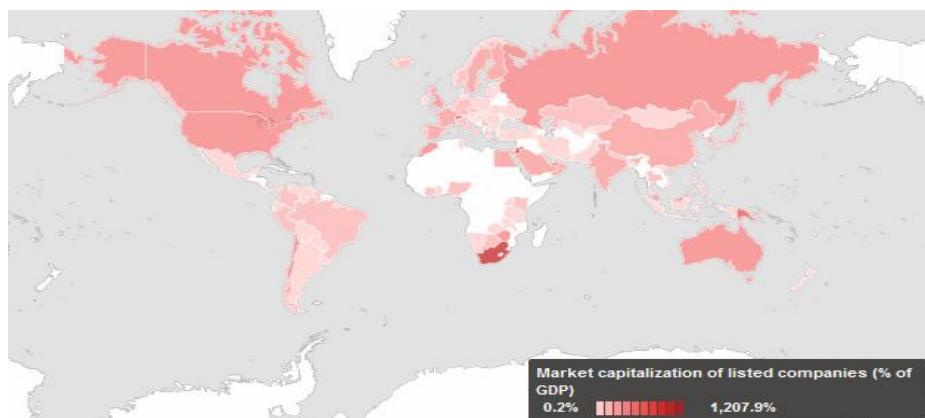
Figure 3 illustrates the changing dynamics between North America, the EU and East Asia and Pacific, in terms of market capitalization. North America maintains its place as the region with the largest market capitalization throughout the last 20 years. East Asia and Pacific, after falling to 3rd place, behind the EU, in 1995, they returned to 2nd place, in 2009, showing rapidly increasing market capitalization after 2000. In such an environment, the danger of asset bubbles cannot be excluded.

Figure 4 focuses in market capitalization in terms of

Fig. 4: Market Capitalization of Listed Companies, per Region
(% of GDP)



Map 1: World Map of Market Capitalization of Listed Companies (% of GDP)



Knowledge Economy I: R&D Expenditure (GDP %)

According to the UNESCO's definition, used by the World Bank from which we draw the data below, expenditures for Research and Development (R&D) include current and capital expenditures (both public and private) on creative work undertaken systematically to increase knowledge, including knowledge of humanity, culture, and society, and the use of knowledge for new applications. R&D covers basic research, applied research, and experimental development. The most recent year for which the World Bank has available data is 2007.

Figure 1 demonstrates state efforts to maintain or change their position in the global knowledge

Fig. 1: Top 20 in R&D Expenditure (GDP %), 2007

Rank	Country	R&D expenditure (GDP %)	Ranking in 2006	Ranking in 2005	Ranking in 2000	Ranking in 1996
1	Israel	4,75926007	1	1	1	2
2	Sweden	3,60504499	2	2	-	-
3	Finland	3,47473269	3	3	2	5
4	Japan	3,44242628	4	4	3	1
5	Korea	3,2103572	5	5	8	6
6	USA	2,71506229	7	7	4	4
7	Iceland	2,69942601	6	6	5	-
8	Denmark	2,55973723	9	9	-	10
9	Germany	2,53753766	8	8	7	8
10	Austria	2,53577431	10	10	11	15
11	Singapore	2,51940098	11	11	13	16
12	France	2,04205946	12	12	9	7
13	Canada	1,89952632	14	13	12	13
14	Belgium	1,89806131	15	14	-	12
15	UK	1,81527512	17	16	15	11
16	Netherlands	1,71514427	16	15	14	9
17	Norway	1,64227831	21	18	-	-
18	Luxembourg	1,62477926	18	17	16	-
19	Czech Rep.	1,53540416	20	20	19	21
20	Slovenia	1,45197655	19	19	18	18

Bulgaria was 47th, and Cyprus 49th.

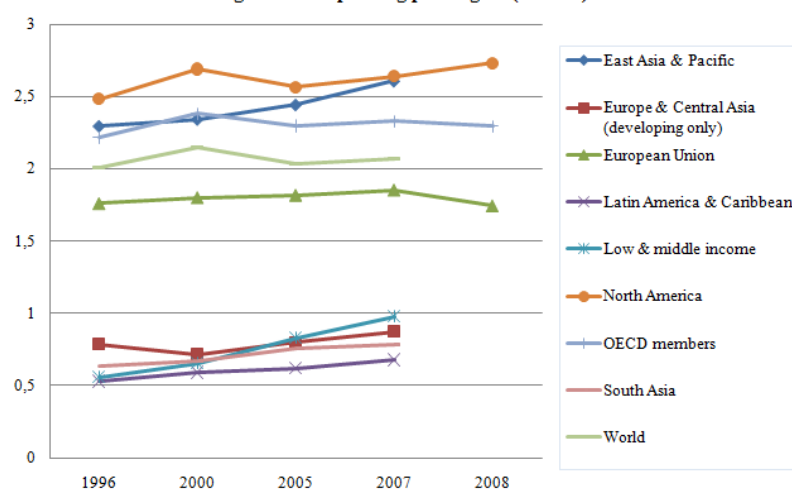
economy. The Top 20 Ranking is lead by Israel that spends close to 5% of GDP for R&D. Impressive is the presence of Nordic countries, which figure in the Top 8, with Sweden and Finland in the 2nd and 3rd place respectively (except Norway which is 17th). Japan and the USA are losing ground since the mid-1990s, but remain in the Top 6.

➤ China was the only BRIC to move upwards during the period 1996-2007; from 34th in 1996 to 21nd in 2007. In 2007, Russia was 27th, Brazil was 29th, and India 37th, all having lost few places since 1996.

➤ Greece, was in the 42nd place in 2007, from 39th in 2001, spending 0,574% of it's GDP in R&D. During the same period Turkey moved slightly upwards from 42nd to 38th. The same did Portugal from 31st to 25th. In 2007, Poland was 43th,

Figure 2 illustrates the knowledge battle among regions. North America's dominance has been challenged by East Asia & Pacific in 2007. The EU lags behind, with distance, in the 3rd place. In contrast to its main competitors, its R&D spending declined in 2008. All other regions seems to gradually increase their spending, which remain however below the 1% of their GDP.

Fig. 2: R&D Spending per Region (GDP%)



Knowledge Economy II: Researchers in R&D

According to the World Bank, from which we draw the data below, 'researchers in R&D' are professionals engaged in the conception of creation of new knowledge, products, processes, methods or systems and in the management of projects concerned. This category includes Postgraduate PhD students engaged in R&D.

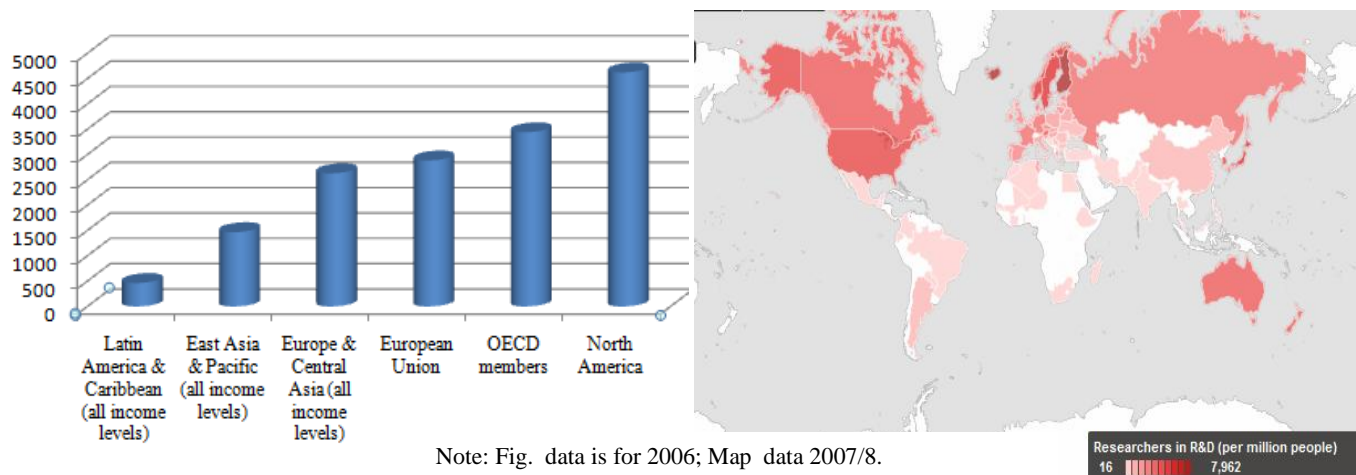
Figure 1 offers the latest data for the global TOP 20 country ranking in terms of researchers in R&D per country. The constant lead of Finland, since 2000, and the dominant place of Nordic countries in the global division of knowledge labour are impressive. In particular:

Fig. 1: Top 20 in Researchers in R&D (per million people), 2007

Rank	Country	Researchers in R&D (per million people)	Ranking in 2006	Ranking in 2005	Ranking in 2000
1	Finland	7381,7	1	1	1
2	Iceland	7166,6	2	2	
3	Singapore	6087,9	4	4	3
4	Japan	5573,0	5	5	2
5	Denmark	5430,8	6	6	
6	Norway	5247,3	7	8	
7	Sweden	5214,7	3	3	
8	Korea, Rep.	4627,2	9	10	10
9	Luxembourg	4577,3	8	7	4
10	New Zealand	4364,6		9	
11	Austria	3774,2	10	11	
12	Germany	3452,7	11	12	6
13	Belgium	3412,6	12	14	7
14	Russia	3304,7	13	13	5
15	Slovenia	3109,3	14	16	11
16	UK	2881,4	15	15	8
17	Spain	2783,7	17	17	13
18	Estonia	2747,9	18	19	12
19	Czech Rep.	2714,9	19	20	14
20	Netherlands	2680,2	16	18	9

- All 5 Nordic countries (Finland, Iceland, Denmark, Norway, Sweden) are in the Top 7. The other two places in the Top 7 are filled by East Asian economies (Singapore and Japan) that, however, seem to have lost ground since 2000.
- Countries that lost their place in the Top 10 since 2000, include: Russia (from 5th to 14th), Germany (from 6th to 12th), Belgium (from 7th to 13th), the UK (from 8th to 16th), and the Netherlands (from 9th to 20th).
- The World Bank does not have data for the US for 2007, so the latter is not included in the Table. Yet, in 2006 the US had 4663,3 R&D researchers per million people, which would place it in the 8th place in 2007 Top 20 ranking.
- In terms of regional distribution, the Top 20, includes 16 European states (inc. Russia), of which 12 are EU members, 3 East Asian states and one state in Oceania.
- China is in the 36th place and Brazil in the 42nd. India lags behind in the 122nd place. Turkey is in the 41st place.
- Greece holds the 25th position in global ranking, with 1873,4 Researchers in R&D in 2007. Yet, it is below the OECD (3012,8), Euro Area (2979,9) and EU (2938) averages.

The following **Figure** and **Map** (source WB) depict the regional distribution of R&D researchers at a global scale (per million).



Knowledge Economy III: Technicians in R&D

According to the World Bank, from which we draw the data below, ‘technicians in R&D and equivalent staff’ are people whose main tasks require technical knowledge and experience in engineering, physical and life sciences (technicians), or social sciences and humanities (equivalent staff). They participate in R&D by performing scientific and technical tasks involving the application of concepts and operational methods, normally under the supervision of researchers.

Figure 1 offers the latest data for the global Top 20 country ranking in terms of technician in R&D per country. Unfortunately, the available data are not complete, and data are not available for a number of important countries such as the USA, Brazil, China and Italy. Thus the Top 20 of Fig. 1 refers to the countries for which data is available.

Fig. 1: Top 20 in Technician in R&D (per million people), 2007

Rank	Country	Technicians in R&D (per million people)	Ranking in 2005	Ranking in 2000
1	Luxembourg	2781,2	1	
2	Denmark	2116,9	3	
3	Austria	1959,5		
4	France	1879,5	4	
5	Sweden	1871,4		
6	Iceland	1678,1	2	
7	Slovenia	1536,7	7	2
8	Czech Rep.	1502,7	8	6
9	Belgium	1406,8	6	4
10	Germany	1301,3	9	
11	Spain	1142,8	10	9
12	New Zealand	894,4	11	
13	UK	878,5	14	
14	Korea	719,9	19	15
15	Ireland	673,6	13	7
16	Malta	657,4	20	
17	Croatia	642,6	16	16
18	Estonia	599,5		17
19	Japan	588,9	17	10
20	Lithuania	529,8		12

Cyprus (337) and Poland (226). In the same year, Turkey had 101 technicians (per million)

➤ EU member states hold 10 out of the first 11 places. Indeed only four states in the Top 20 list are not EU members: Iceland (6th), New Zealand (12th), Korea (14th), Croatia (17th) and Japan (19th). From these Iceland and Croatia have applied for EU membership.

➤ In 2005 (the latest year for which data is available), Greece was in the 13th place of global ranking with 763 R&D technicians (per million people). In the same year, however, the Eurozone and the EU averages were 1191 and 941 respectively.

➤ In 2007, Bulgaria was close to the Top 20 with 476 technicians. Lower but with considerable numbers were

Knowledge Economy IV: Patent Applications (Residents)

According to the World Bank, from which we draw the data below, this indicator demonstrates the number of patent applications which are filed worldwide, through the Patent Corporation Treaty procedure or with a national patent office for exclusive rights for an invention – a product or process that provides a new way of doing something or offers a technical solution to a problem. Furthermore, in the case of resident patent applications, the first named applicant or assignee is a resident of the state or region concerned (see also Xuan Li and Yogesh Pai, 2007).

Figures 1 & 2 demonstrate the knowledge battle in the global political economy. Japan remains the undisputed knowledge leader and the USA the main challenger throughout the last, almost, half

Fig. 1: Top 20 in Patent Applications - PA (Residents), 2008

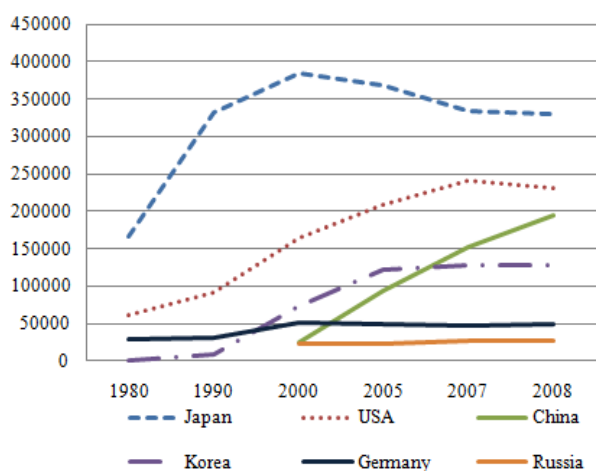
Rank	Country	Number of PA	Ranking in 2005	Ranking in 2000	Ranking in 1990	Ranking in 1980
1	Japan	330110	1	1	1	1
2	USA	231588	2	2	2	2
3	China	194579	4	5		
4	Korea	127114	3	3	6	23
5	Germany	49240	5	4	3	3
6	Russia	27712	6	6		
7	UK	16523	7	7	4	4
8	France	14743	8	8	5	5
9	Italy	8588		9		7
10	Canada	5061	10	12	12	18
11	Spain	3632	15	14	15	16
12	Ukraine	2825	14	10		
13	Australia	2821	16	21		6
14	Sweden	2549	17	11	9	9
15	Poland	2488	20	17	8	8
16	Netherlands	2421	19	16	16	17
17	Austria	2298	18	20	18	14
18	Turkey	2221	29	42	34	35
19	Finland	1799	22	15	17	20
20	Denmark	1634	23	22	19	26

century. China is 3rd but gradually, and steadily, closes the gap, and approaches the US. Korea lost its 3rd place to China, but its place as 4th is not under threat in the near future. The same applies for Germany, which although it was left behind by China and Korea since the 1980s, its place as 5th seems solid for the coming year. Finally, Russia maintains its place as 6th since 2000.

➤ There was no data for Brazil for 2008, and that's why it is not included in the above Top 20. Yet, since the 1980s Brazil is part of the Top 20, holding the 13th or 14th place. India, on the other hand, was 24th in 1980, 20th in 1990, and 18th in 2000. Turkey from 42nd in 2000 it was 18th in 2008.

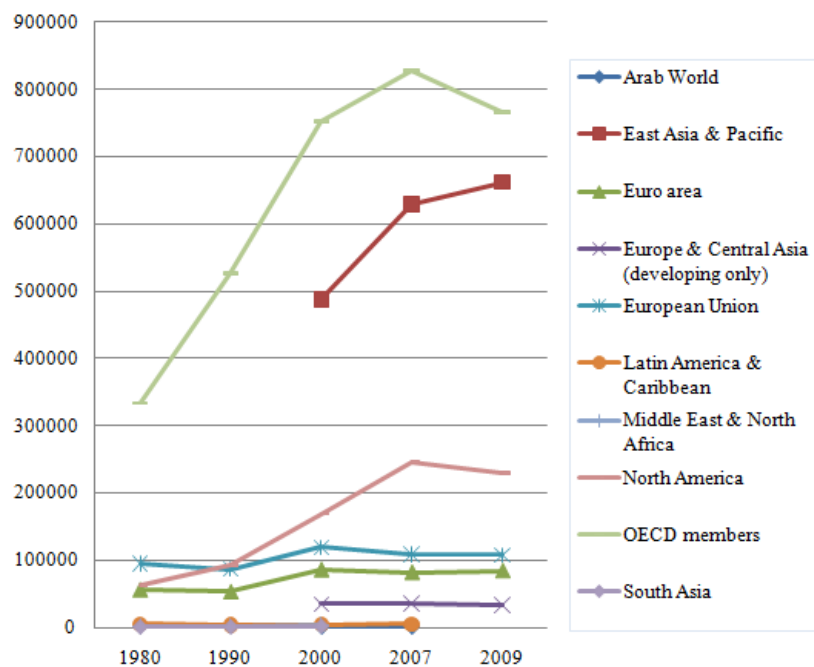
➤ Greece held the 22nd place in 1980. Yet, the following two decades lost ground: it was 29th in 1990 and 41st in 2000. In 2008 Greece was 34th above Portugal (38th) and Cyprus (65th). In absolute numbers, Greece's residents filled an average of approx. 1310 patent applications in the 1980s. Yet, during the period 1990-2007, this number was remarkably decreased (1990->429, 2000->431). In 2009 it was 698.

Fig. 2: Top 6 in Patent Applications - PA (Residents)



➤ **Figure 3** demonstrates that the region of East Asia and Pacific is leading by far the race of patent applications (residents). North America took over the 2nd place from the EC/EU in the 1990s and significantly increased its share of patent application until 2007. Yet, after 2007 it seems to face a decline. The stagnation of patent application in the EU after 2000 is rather worrying for the region.

Fig. 3: Patent Applications per Region (Residents)

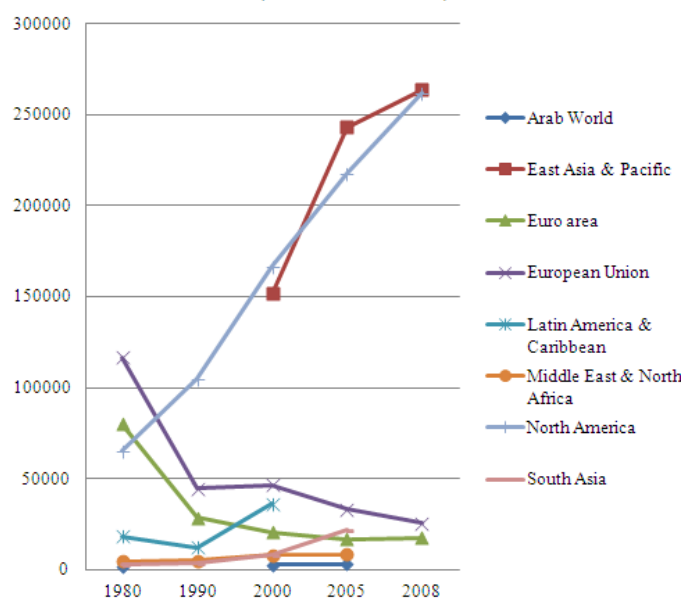


Knowledge Economy V: Patent Applications (Non-Residents)

Fig. 4: Top 20 in Patent Applications - PA (Non-Residents), 2008

Rank	Country	Number of PA	Ranking in 2005	Ranking in 2000	Ranking in 1990	Ranking in 1980
1	USA	224733	1	1	1	1
2	China	95259	2	5		
3	Japan	60892	3	3	2	2
4	Korea, Rep.	43518	4	4	4	
5	Canada	37028	5	2	3	3
6	Australia	23525	6	6		9
7	Mexico	15896	9	8	11	16
8	Russia	14137	13	11		
9	Hong Kong	13489	11	12	29	
10	Germany	13177	10	10	6	5
11	Singapore	8899	14	13		38
12	UK	6856	12	9	5	4
13	Israel	6214	20	18	16	25
14	Thailand	5939	17	20	20	50
15	Malaysia	4485	15	15	18	
16	New Zealand	4468	18	16	14	24
17	Norway	4280	19	17	9	20
18	Chile	3421	24	27	32	37
19	Philippines	3095	25	25	21	32
20	Ukraine	2872	26	31		

Fig. 5: Patent Applications per Region (non-resident)



Knowledge Economy VI: High Technology Exports

According to the UNO's definition, used by the World Bank from which we draw the data below, high-technology exports are products with high R&D intensity, such as in aerospace, computers, pharmaceuticals, scientific instruments, and electrical machinery. Data are usually presented in current prices or as a percentage of manufactured exports. The most recent year for which the World Bank has available data is 2009.

High-Technology Exports in current US\$

Fig. 1: Top 20 of High Technology Exporters, 2009 (current US\$)

Rank	Country	Value of High Tec. Exports	Ranking in 2000
1	China	348294572714	10
2	Germany	142449233000	3
3	USA	141518550520	1
4	Korea	103400416199	7
5	Japan	99209829828	2
6	Singapore	97207444744	4
7	France	83826519243	6
8	Netherlands	58449778506	9
9	UK	57177877845	5
10	Malaysia	51559754556	8
11	Switzerland	38556463738	19
12	Mexico	37353528539	13
13	Belgium	29676410589	18
14	Thailand	28654786297	17
15	Italy	25988021694	15
16	Canada	25079579806	11
17	Ireland	24738476359	12
18	Philippines	21530782893	14
19	Hungary	17443607000	25
20	Sweden	17059028846	16

Figure 1 illustrates the changing nature of the global political economy. It refers to the high technology global economy that relates to high added-value that is a decisive element for global economic dominance.

➤ China, from 10th in 2000, leads the Top 20 table in 2009. In contrast, the US from the 1st place in 2000 moved to the 3rd place, after Germany, which moved one place up to the 2nd place. Japan from 2nd in 2000 is 5th in 2009.

➤ Europe dominates in the Top 20 table with 10 countries, followed by East Asia which is represented by 6 countries.

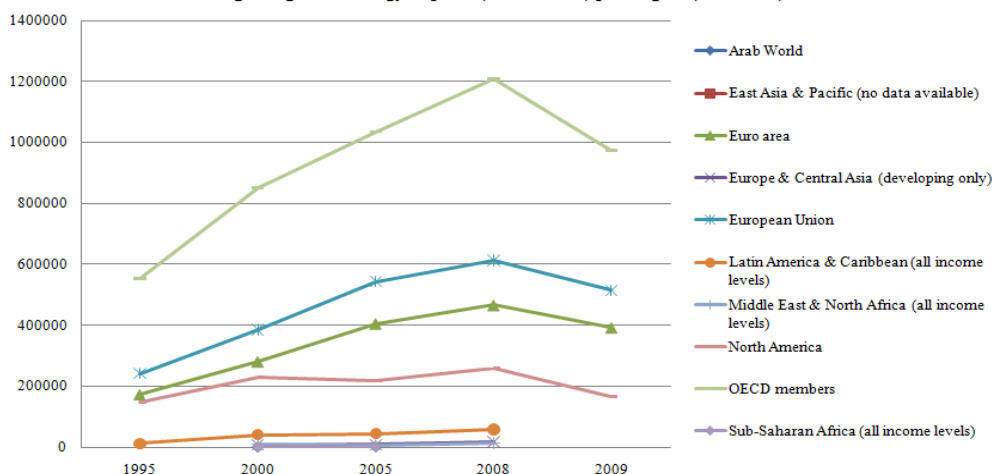
➤ Greece seems to have remained stagnant: from 43rd in 2000 to 41st in 2009. Thus in 2009 it was slightly below Portugal (40th) and Turkey (37th) and above Bulgaria (46th).

Figure 2 shows that the EU is ahead North America in high technology exports in absolute numbers. Yet both European and US high tech exports seem to

decline after 2008.

There is no available aggregate regional data for East Asia.

Fig. 2 High Technology Exports (current US\$) per Region (in millions)



High-Technology Exports (as % of manufactured exports)

Fig. 3 Top 20 of High Technology Exporters (% of manufactured exports)

Rank	Country	High Tec. Exports (%)	Rank in 2000
1	Philippines	65,5	1
2	Singapore	49,1	3
3	Malta	47,3	2
4	Malaysia	47,1	4
5	Costa Rica	41,5	5
6	Sudan	33,8	87
7	Cyprus	32,5	103
8	Korea	32,0	12
9	Hong Kong	31,3	24
10	China	31,0	33
11	Rwanda	30,7	
12	Kazakhstan	30,0	90
13	Iceland	28,8	45
14	Thailand	26,2	14
15	Hungary	25,7	20
16	Switzerland	25,0	30
17	Ireland	24,7	6
18	Netherlands	24,1	11
19	France	23,0	23
20	USA	23,0	13

➤ During the last decade, Brazil remained 34th/35th, India improved its position from 78th to 55th, and Russia moved downwards from 38th to 51st.

➤ Cyprus moved from 103rd to 7th in less than a decade. Greece moved from 44th in 2000 to 40th in 2009.

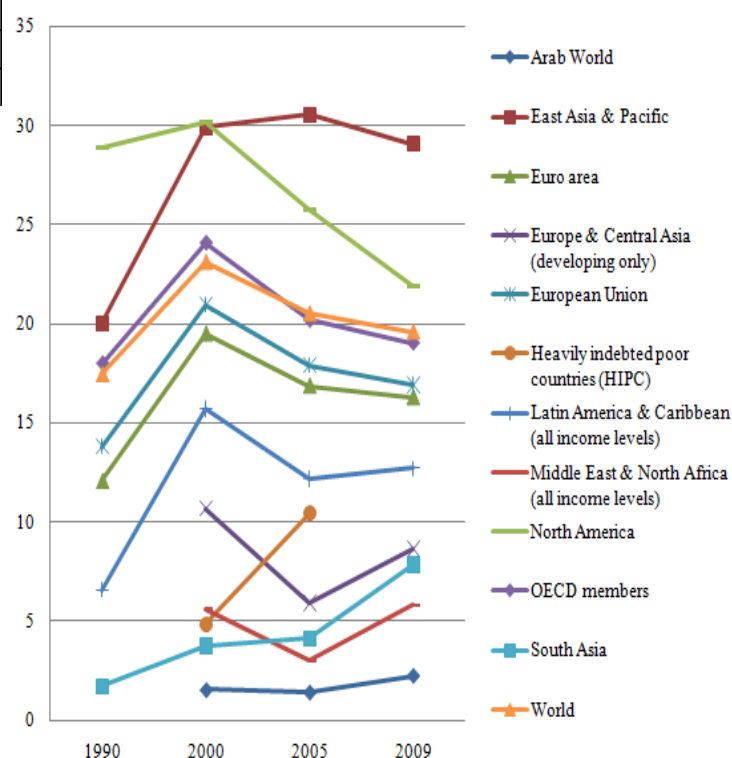
In terms of regions, **Figure 4** illustrates the impressive upwards race of East Asia & Pacific, which overtook North America in 2000. European Union comes 3rd and Latin America & Caribbean 4th.

Figure 3 gives us a more clear picture of how states transformed their economies in the past decade, by increasing their high technology exports. Here the emphasis is on the importance of high technology products for the exports of each country separately.

➤ East Asia is represented by three economics in the Top 5: Philippines (1st), Singapore (2nd) and Malaysia (4th). This reminds us of the dynamic and knowledge intensive nature of the Asian Tigers.

➤ Interestingly, Malta comes 3rd and Costa Rica 5th in the Top 20 league. Even more interestingly, within a decade Sudan moved from 87th to 6th in terms of the high tech composition of its exports, and Rwanda follows in place 11.

Fig. 4 High Technology Exports per Region (% of manufactured exports)



Knowledge Economy VI: Scientific and Technical Journal Articles

According to the National Science Foundation's definition, used by the World Bank from which we draw the data below, scientific and technical journal articles refer to the number of scientific and engineering articles published in the following fields: physics, biology, chemistry, mathematics, clinical medicine, biomedical research, engineering and technology, and earth and space sciences. The most recent year for which the World Bank has available data is 2007.

Fig. 1: Top 20 in Scientific and Technical Journal Articles, 2007

Rank	Country	Number of articles	Ranking in 2006	Ranking in 2005	Ranking in 2000	Ranking in 1990
1	USA	209695	1	1	1	1
2	China	56806	3	5	8	13
3	Japan	52896	2	2	2	3
4	UK	47121	4	3	3	2
5	Germany	44408	5	4	4	4
6	France	30740	6	6	5	5
7	Canada	27800	7	7	6	6
8	Italy	26544	8	8	7	7
9	Spain	20981	9	9	10	12
10	Korea	18467	10	10	15	31
11	India	18194	12	12	13	10
12	Australia	17831	11	11	11	8
13	Netherlands	14210	13	14	12	9
14	Russia	13953	14	13	9	-
15	Brazil	11885	15	16	17	24
16	Sweden	9914	16	15	14	11
17	Switzerland	9190	17	17	16	14
18	Turkey	8638	18	18	24	37
19	Poland	7136	19	19	20	17
20	Belgium	7071	20	20	19	16

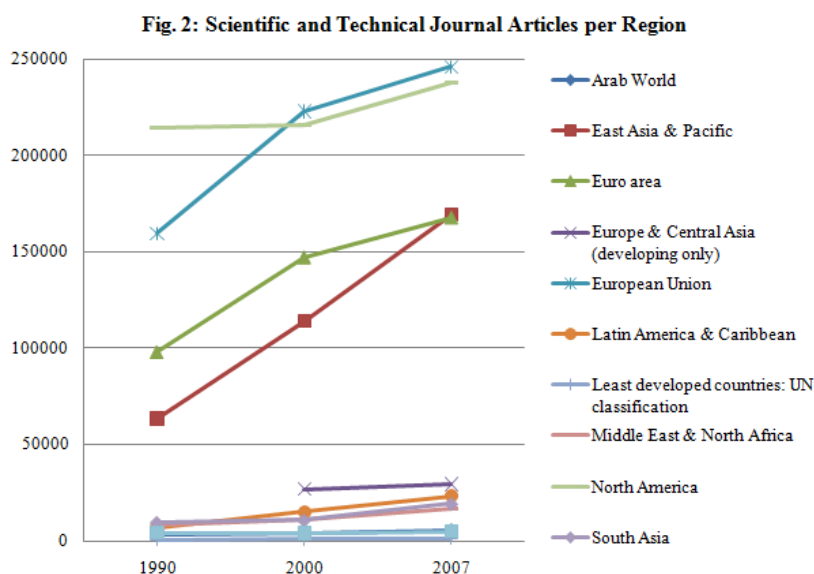
shift seems to have taken place in 2000, when, after covering a large distance, the EU took over the 1st place from North America (Figure 2). Indeed, 9 countries in the Top 20 are EU member-states. The rapid increase, over the last 2 decades, of articles in the region of East Asia & Pacific is indicative both of the dynamic and the future potential of this region in the global division of innovation economy.

Figure 1 depicts the dynamics of knowledge production by people in a world of states. The US has absolute dominance in this field. Indeed, even if we put together the articles of China (2nd), Japan (3rd), the UK (4th) and Germany (5th), they come close but do not exceed the number of articles in the US. Clearly, the US dominates this field.

➤ Of course China's race to the 2nd place from the 13th in 1990's is noticeable. More impressive is Korea's move from 31st in 1990s to 10th in 2007, as well as Turkey's move from 37th to 18th.

➤ Greece, from 29th in 1990 moved to the 24th place in 2007.

In terms of regions, a significant



CO2 emissions

According to the definition used by the World Bank, from which we draw the data below, carbon dioxide emissions are those stemming from the burning of fossil fuels and the manufacture of cement. They include carbon dioxide produced during consumption of solid, liquid, and gas fuels and gas flaring.

Figure 1 and 2 present the Top 20 of CO2 polluters in absolute numbers (kt) and per capita.

Rank	Country	CO2 Emissions	Ranking in 2005	Ranking in 2000	Ranking in 1990	Ranking in 1980
1	China	6533018	2	2	2	3
2	USA	5832194	1	1	1	1
3	India	1611042	4	5	5	11
4	Russia	1536099	3	3	3	2
5	Japan	1253517	5	4	4	4
6	Germany	787291	6	6	-	-
7	Canada	556884	7	8	8	9
8	UK	539176	8	7	7	6
9	Korea	502910	10	10	17	23
10	Iran	495582	12	14	19	25
11	Mexico	471073	11	11	11	12
12	Italy	456054	9	9	9	10
13	South Africa	433173	13	12	13	14
14	Saudi Arabia	402120	15	19	20	21
15	Indonesia	396819	19	21	-	29
16	Australia	373739	16	16	15	15
17	France	371453	14	13	10	7
18	Brazil	368016	18	15	21	18
19	Spain	358966	17	20	18	16
20	Ukraine	317277	20	17	6	5

Figure 2 indicates that in terms of per capita emissions the first 9 polluters are small or very small states. Indeed, with the exception of the USA (10th), Australia (11th), Canada (12th) and Saudi Arabia (13th) the states in the Top 20 list are rather very small, small or medium countries.

- While Greece remains rather low in the overall ranking, its per capita emissions have increased over the past decades. From 60th in 1980, Greece moved upwards to place 40 in 2007.

Figure 1 demonstrates the predominance of China in kt of CO2 emissions. The USA was on the Top of the polluters' list until 2006. Expectedly, emerging economies/powers have overall an important place in the Top 20 list.

- Impressive is the rapid climbing of India to the 3rd place from 11th in 1980.

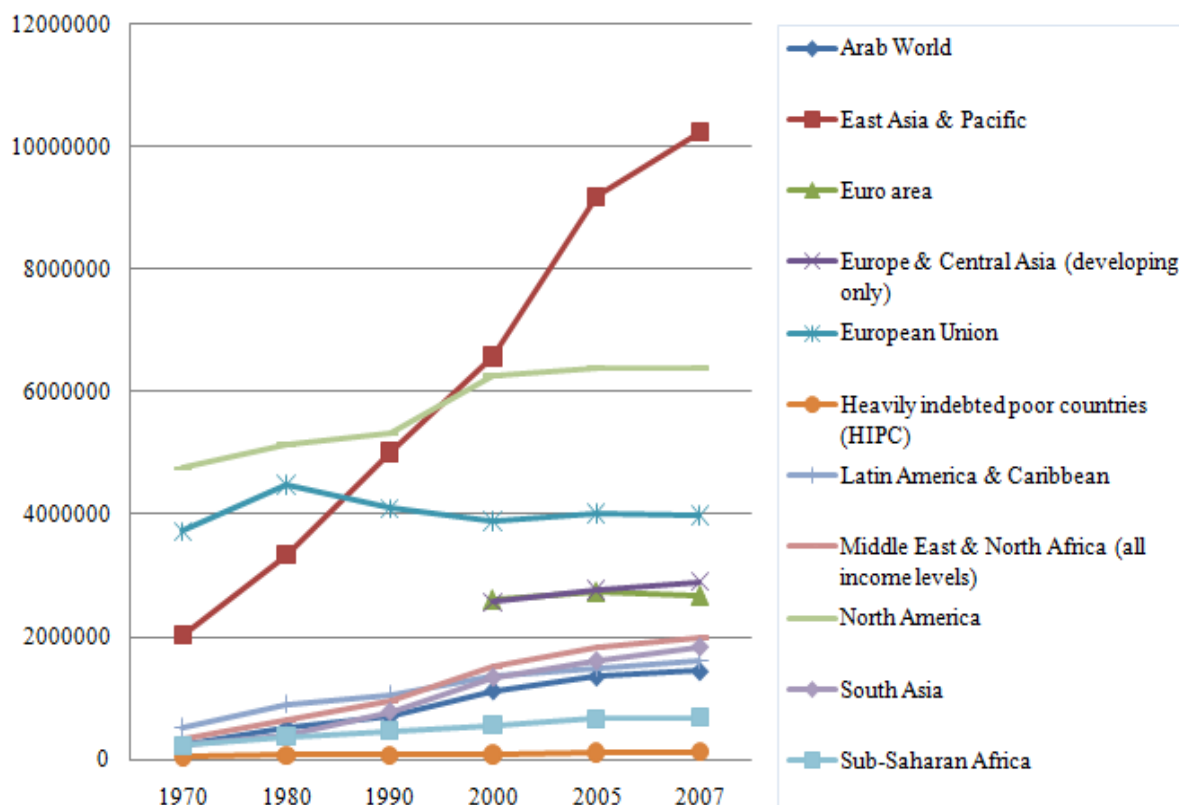
- It is very interesting that no European state is in the Top 5 of polluters (Germany is 6th), while, in general, only 5 European states are in the Top 20 of polluters.

- From 41st in 1980, Greece was 38th in 2007.

Rank	Country	CO2 Emissions	Ranking in 2005	Ranking in 2000	Ranking in 1990	Ranking in 1980
1	Qatar	55,38422	1	1	5	1
2	Netherlands Antilles	32,44081	3	4	1	-
3	Kuwait	32,32286	2	3	9	9
4	UAE	31,03379	4	2	2	3
5	Bahrain	29,55088	5	5	7	6
6	Trinidad & Tobago	27,86173	7	9	17	14
7	Aruba	23,002	8	6	3	-
8	Luxembourg	22,5721	6	10	4	5
9	Brunei	19,74561	13	8	7	4
10	USA	19,3388	9	7	8	7
11	Australia	17,73586	10	12	12	16
12	Canada	16,88756	11	11	13	13
13	Saudi Arabia	16,59161	12	13	19	11
14	Estonia	15,24673	16	17	11	12
15	Kazakhstan	14,67356	20	38	10	8
16	Faeroe Islands (Dk)	14,38942	14	14	20	-
17	Oman	13,67733	17	34	65	62
18	Finland	12,12461	24	24	26	24
19	Czech Rep.	12,08243	18	16	15	10
20	Singapore	11,80024	15	15	16	20

Figure 3 illustrates the dynamics of CO₂ emissions per region. In the 1990s, the East Asia and Pacific became the 2nd largest region of CO₂ emissions, overtaking this place from the EU. In 2000, replacing North America, East Asia became the region with the largest emissions in the world. The dynamic of emissions increase in East Asia and Pacific remains impressive (and for this worrying).

Fig. 3: CO₂ Emissions (kt) per Region



If we use 'income' rather than 'geography' for our ranking, then, in 2007, Low and Middle income countries held the 1st place in term of emissions, Middle income countries the 2nd and High income countries the 3rd. In the 1980's, the 1st place, in terms of pollution, was held by the High income countries.

Human Development Index

The Human Development Index introduces a new way of measuring development by combining indicators of health (life expectancy), knowledge (educational attainment) and wealth (income) into a composite index. As noted by UNDP, that introduced the HDI in the 1990s, and from which we draw the data below, the breakthrough for the HDI was the creation of a single statistic for evaluating both social and economic development. It is thus a significant alternative to conventional measures of national development, such as the rate of GDP. The scale of the HDI is between 0 (low human development) and 1 (high human development).

Figure 1 offers the Top 20 countries in human development in 2010.

➤ It is interesting that a Nordic country, Norway, is leading the league, while all Nordic countries are in the Top 20.

Rank	Country	HDI	2008	2005	2000	1990	1980
1	Norway	0,938	1	1	2	3	5
2	Australia	0,937	2	2	1	6	3
3	New Zealand	0,907	3	3	7	8	6
4	USA	0,902	4	4	3	1	1
5	Ireland	0,895	5	5	10	21	17
6	Liechtenstein	0,891	6	11	-	-	-
7	Netherlands	0,890	7	10	5	5	7
8	Canada	0,888	8	8	6	2	4
9	Sweden	0,885	9	6	4	9	8
10	Germany	0,885	10	9	-	15	-
11	Japan	0,884	11	12	11	7	10
12	Korea	0,877	16	20	22	27	34
13	Switzerland	0,874	13	13	9	4	2
14	France	0,872	17	19	16	22	19
15	Israel	0,872	15	15	15	13	11
16	Finland	0,871	12	14	19	16	13
17	Iceland	0,869	14	7	12	12	12
18	Belgium	0,867	18	17	8	10	14
19	Denmark	0,866	19	16	14	11	9
20	Spain	0,863	20	21	17	26	25

all Nordic countries are in the Top 20.

➤ Equally interesting is the fact that places 2 to 5 are occupied by Anglo-Saxon economies that have significantly improved their place since the 1980s, with the exception of the USA that moved from 1st to 4th.

➤ Japan and Korea (and depending on the nature of geography employed, Israel) are the only non-Western countries in the Top 20.

➤ Greece was 20th in 1980, 25th in 2005, and stable in the 22nd place the last 3 years.

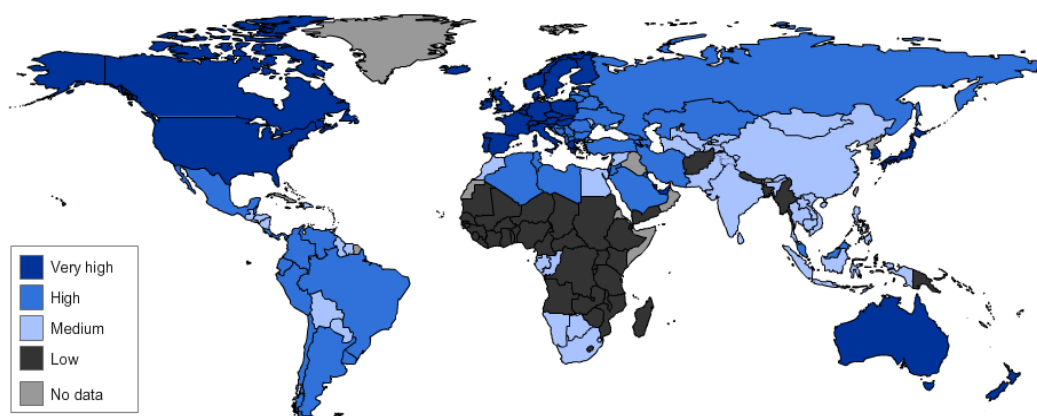
Figure 2 and **Map 1** offer

Country	Rank
Norway	1
USA	4
Germany	10
Japan	11
Korea	12
France	14
Spain	20
Greece	22
Italy	23
UK	26
UAE	32
Cyprus	35
Poland	41
Argentina	46
Saudi Arabia	55
Mexico	56
Russia	65
Iran	70
Brazil	73
Turkey	83
China	89
Egypt	101
Indonesia	108
South Africa	110
India	119

us a more global picture of the 2010 HDI, that includes overall 169 countries.

BRIC are rather low in the ranking. Russia is 65th, Brazil 73rd, China 89th and India 119th. Indeed, it is rather surprising that India, the largest democracy in the world, and a country with many aspirations, is so low in the HDI.

Map 1: World Map of HDI, 2010



Main Human Development Trends

Fig. 3: Top 20 in Gross National income (GNI) per capita, 2010 (constant 2008 PPP US\$)

Rank	Country	GNI	2008	2005	2000	1990	1980
1	Liechtenstein	81.011	1	2	1	3	4
2	Qatar	79.426	2	1	2	-	-
3	Norway	58.810	4	4	5	6	7
4	UAE	58.006	3	5	6	1	1
5	Kuwait	55.719	5	7	7	-	2
6	Luxembourg	51.109	6	3	3	4	9
7	Brunei	49.915	7	6	4	2	-
8	Singapore	48.893	8	9	10	17	31
9	USA	47.094	9	8	8	7	8
10	Hong Kong	45.090	10	11	17	22	33
11	Netherlands	40.658	11	12	11	11	11
12	Switzerland	39.849	13	10	9	5	5
13	Australia	38.692	18	16	15	14	12
14	Canada	38.668	14	13	12	10	10
15	Andorra	38.056	12	15	22	8	6
16	Austria	37.056	17	19	14	14	17
17	Sweden	36.936	15	17	20	16	14
18	Denmark	36.404	16	14	13	15	16
19	Germany	35.308	20	26	19	12	19
20	UK	35.087	19	20	23	24	26

Fig. 4: Top 20 in Life Expectancy at Birth (years)

Rank	Country	LF	2008	2005	2000	1990	1980
1	Japan	83,17	1	1	1	1	3
2	Hong Kong	82,51	2	2	2	9	12
3	Switzerland	82,20	4	5	6	5	7
4	Monaco	82,10	3	3	4	7	8
5	Iceland	82,06	5	4	5	3	2
6	Australia	81,86	6	7	7	12	16
7	San Marino	81,71	7	6	3	2	1
8	France	81,65	8	10	13	15	17
9	Italy	81,44	9	8	9	13	18
10	Spain	81,28	11	11	11	11	9
11	Sweden	81,27	10	9	8	4	6
12	Israel	81,15	12	13	12	18	21
13	Canada	81,04	13	12	10	6	10
14	Norway	81,01	14	15	15	14	5
15	Andorra	80,83	15	14	14	17	11
16	Singapore	80,72	16	17	25	35	36
17	New Zealand	80,60	17	16	17	28	28
18	Austria	80,40	18	18	21	24	32
19	Netherlands	80,33	19	21	18	10	4
20	Ireland	80,33	20	27	32	34	31

Fig. 5 Top 20 in Expected Years of Schooling, 2010 primary to tertiary (children of school entrance age)

Rank	Country	years	2008	2005	2000	1990	1980
1	Australia	20,46	1	1	1	23	29
2	New Zealand	19,70	2	2	6	5	4
3	Iceland	18,18	3	3	7	8	23
4	Ireland	17,86	4	4	8	44	48
5	Cuba	17,66	5	37	61	40	32
6	Norway	17,32	6	5	5	12	9
7	Finland	17,12	7	6	4	3	6
8	Denmark	16,87	8	7	10	9	5
9	Korea	16,82	9	13	16	14	44
10	Slovenia	16,74	10	11	25	51	77
11	Netherlands	16,71	11	12	9	4	11
12	Libya	16,50	12	10	12	29	21
13	Greece	16,48	13	8	34	28	41
14	Spain	16,37	14	17	13	7	19
15	Italy	16,27	15	15	21	38	28
16	France	16,15	16	14	17	10	20
17	Lithuania	15,96	17	19	27	27	-
18	Canada	15,95	18	18	14	1	2
19	UK	15,94	19	9	19	15	12
20	Belgium	15,94	20	20	3	11	15

Fig. 6: Mean Years of Schooling (adults aged 25 years and above)

Country	2010
Norway	12,63
New Zealand	12,52
USA	12,45
Czech Republic	12,33
Germany	12,21
Palau	12,12
Georgia	12,11
Australia	12,04
Estonia	12,00
Israel	11,91
Hungary	11,67
Korea	11,64
Sweden	11,62
Ireland	11,62
Slovakia	11,57
Canada	11,49
Japan	11,48
Ukraine	11,28
Netherlands	11,17

Fig. 7: Ranking of Selected Countries in Specific Human Development Indicators

	GNI/per capita/ PPP	Life Expectancy	Schooling (expected)	Schooling (mean)
Brazil	75	86	57	105
China	95	79	121	93
India	127	144	140	140
Russia	53	132	51	74
South Africa	78	175	70	85
Turkey	62	97	109	115
Greece	30	30	13	27